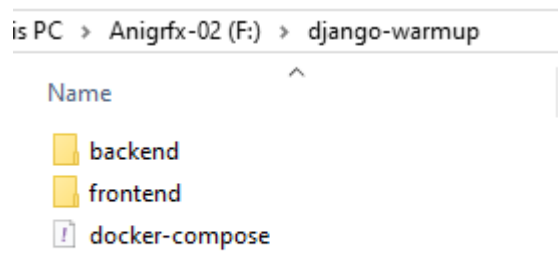


“Full Stack CRUD App using Django, React, Vite & Docker Compose”

Create root folder djago-warmup :-



Backend folder Dockerfile :-

```
FROM python:3.11-slim
```

```
WORKDIR /app
```

```
COPY requirements.txt .
```

```
RUN pip install --no-cache-dir -r requirements.txt
```

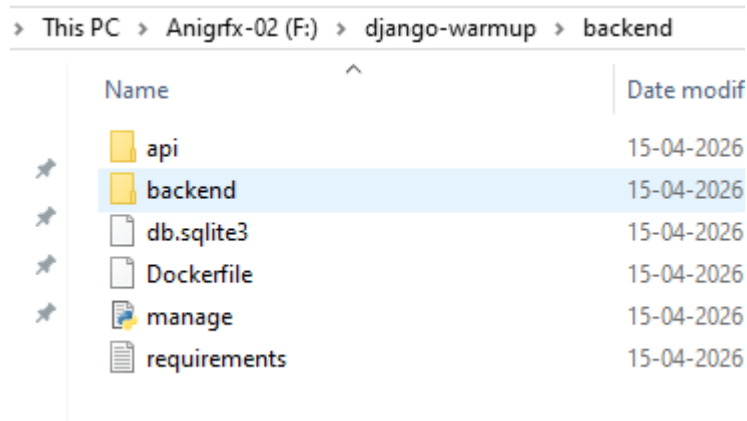
```
COPY . .
```

```
EXPOSE 8000
```

```
CMD ["python", "manage.py", "runserver", "0.0.0.0:8000"]
```



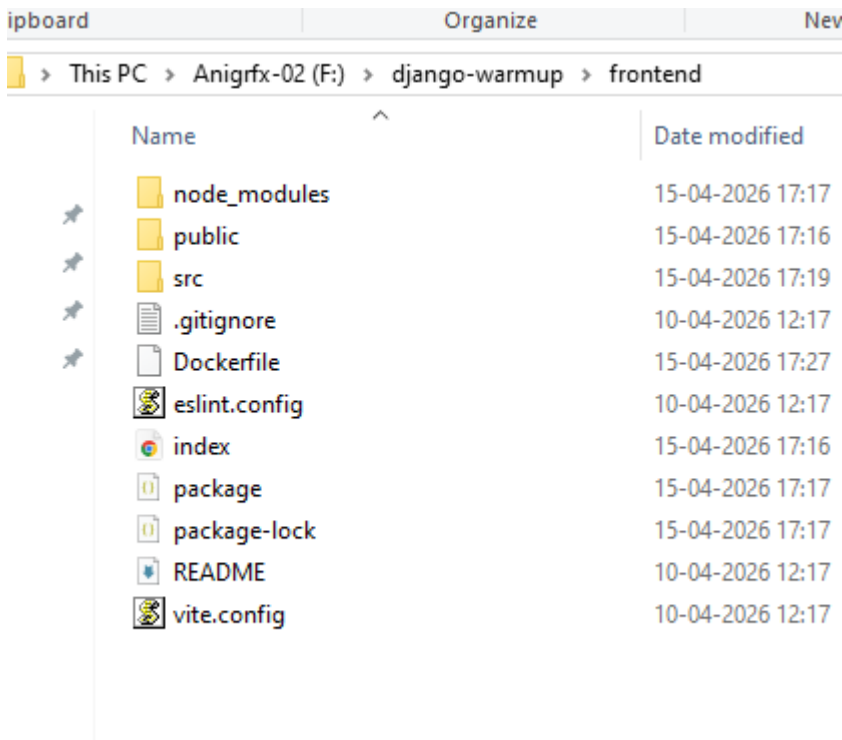
```
1 FROM python:3.11-slim
2
3 WORKDIR /app
4
5 COPY requirements.txt .
6
7 RUN pip install --no-cache-dir -r requirements.txt
8
9 COPY . .
10
11 EXPOSE 8000
12
13 CMD ["python", "manage.py", "runserver", "0.0.0.0:8000"]
```



Frontend folder Dockerfile

```
FROM node:20
WORKDIR /app
COPY package.json package-lock.json ./
RUN npm install
COPY . .
EXPOSE 5173
CMD ["npm", "run", "dev", "--", "--host"]
```

```
docker-compose.yml | Dockerfile | docker-compose.yml | requirements.txt | Dockerfile
1 FROM node:20
2
3 WORKDIR /app
4
5 COPY package.json package-lock.json ./
6
7 RUN npm install
8
9 COPY . .
10
11 EXPOSE 5173
12
13 CMD ["npm", "run", "dev", "--", "--host"]
```



Docker Compose (Core Concept)

Explain:

- “Instead of running manually, we connect everything”

```
services:  
  backend:  
  frontend:
```

docker-compose.yml file inside root folder django-warmup:-

version: "3.9"

services:

backend:

build: ./backend

container_name: django_backend

ports:

- "8000:8000"

volumes:

- ./backend:/app

command: python manage.py runserver 0.0.0.0:8000

frontend:

build: ./frontend

container_name: react_frontend

ports:

- "5173:5173"

volumes:

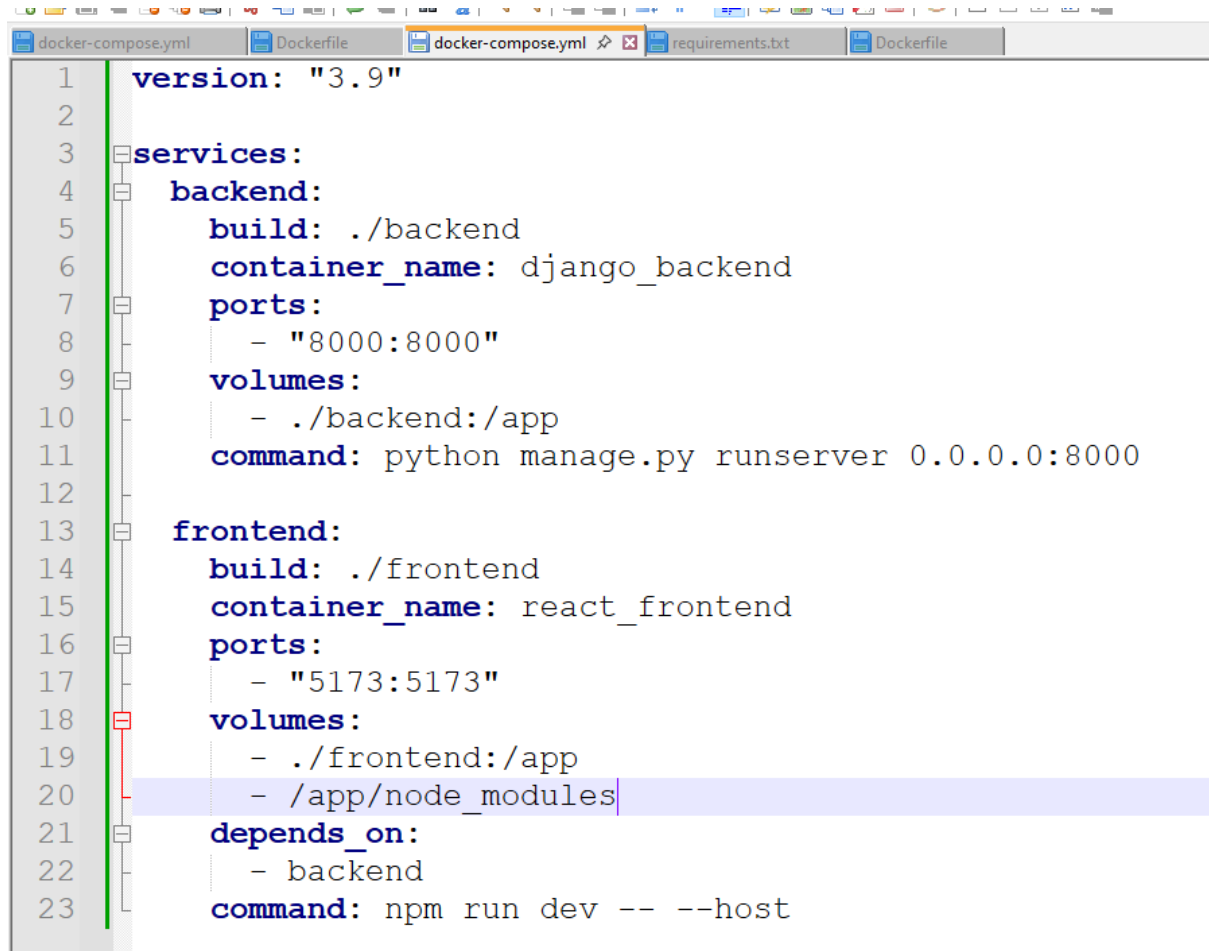
- ./frontend:/app

- /app/node_modules

depends_on:

- backend

command: npm run dev -- --host



```
1  version: "3.9"
2
3  services:
4    backend:
5      build: ./backend
6      container_name: django_backend
7      ports:
8        - "8000:8000"
9      volumes:
10       - ./backend:/app
11      command: python manage.py runserver 0.0.0.0:8000
12
13   frontend:
14     build: ./frontend
15     container_name: react_frontend
16     ports:
17       - "5173:5173"
18     volumes:
19       - ./frontend:/app
20       - /app/node_modules
21     depends_on:
22       - backend
23     command: npm run dev -- --host
```

❑ STEP 8: Run Everything Together

```
docker-compose up --build
```

Explain:

- one command starts full stack

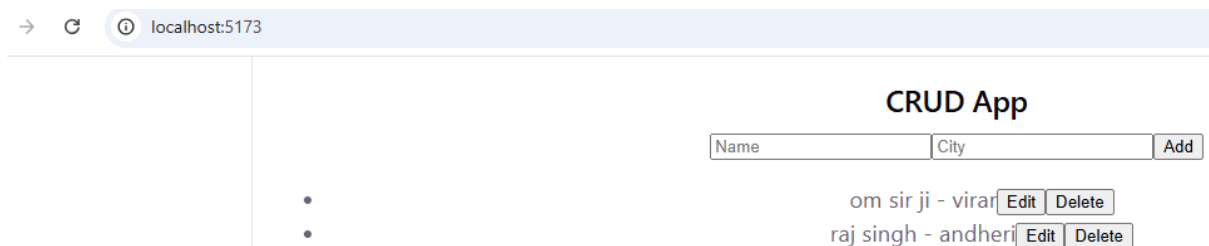
```
ca. C:\Windows\system32\cmd.exe - docker-compose up --build
8a978c70d4d6  frontend-app  "docker-entrypoint.s..." 16 minutes ago Up 3 mi
F:\django-warmup>docker-compose up --build
time="2026-04-15T17:52:13+05:30" level=warning msg="F:\\django-warmup\\docker-compose.yml
#1 [internal] load local bake definitions
#1 reading from stdin 961B done
#1 DONE 0.0s

#2 [frontend internal] load build definition from Dockerfile
#2 transferring dockerfile: 200B 0.0s done
#2 DONE 0.0s
```

❑ STEP 9: Final Testing

Open:

Frontend: <http://localhost:5173>



Backend: <http://localhost:8000/api/persons/>

→ localhost:8000/api/persons/

Django REST framework

Api Root / Person List

Person List

POST /api/persons/

```
HTTP 201 Created
Allow: GET, POST, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

{
  "id": 4,
  "name": "khushichavan",
  "city": "Andheri Railway Station"
}
```

Do live CRUD demo:

- Add user
- Edit user
- Delete user

And in your docker desktop you will see running containers :-

The screenshot shows the Docker Desktop interface. The top navigation bar includes the Docker logo, the name 'Gordon' with a 'BETA' badge, a search bar, a 'Ctrl+K' shortcut, and a 'Sign in' button. The left sidebar contains a navigation menu with options: Containers (selected), Images, Volumes, Kubernetes, Builds, Docker Hub, Docker Scout, Models, MCP Toolkit (BETA), and Extensions. The main area is titled 'Containers' and shows system metrics: 'Container CPU usage 3.18% / 400% (4 CPUs available)' and 'Container memory usage 196.67MB / 5.6GB'. Below the metrics is a search bar and a toggle for 'Only show running containers'. A table lists the following containers:

	Name	Container ID	Image	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	mystifying_yalow	efcff2c43cf1	vite-prod	80:80	0%	1 day ago	
<input type="checkbox"/>	flamboyant_matsumoto	b0b3c7d12352	vite-react-app	5173:5173	0%	1 day ago	
<input type="checkbox"/>	peaceful_davinci	f88f8bc3ba8f	vite-react-app	5173:5173	0%	1 day ago	
<input type="checkbox"/>	stupefied_albattani	f4a2d63f99a0	vite-react-app	5173:5173	0%	1 day ago	
<input type="checkbox"/>	heuristic_bohr	c6b3832ef333	react-prod	80:80	0%	1 day ago	
<input type="checkbox"/>	relaxed_black	8a978c70d4d6	frontend-app	5173:5173	0%	23 minutes ago	
<input type="checkbox"/>	wizardly_nightingale	2aa6070aa0c0	frontend-app	5173:5173	0%		
<input type="checkbox"/>	adoring_turing	6674b557b69a	frontend-app	5173:5173	0%		
<input type="checkbox"/>	hardcore_agnesi	24dca0a5b14d	frontend-app	5173:5173	0%	15 minutes ago	
<input type="checkbox"/>	falak-web	-	-	-	0%	24 hours ago	
<input type="checkbox"/>	django-warmup	-	-	-	3.2%	13 minutes ago	

At the bottom right of the interface, there is a watermark that says 'Activate Windows'.