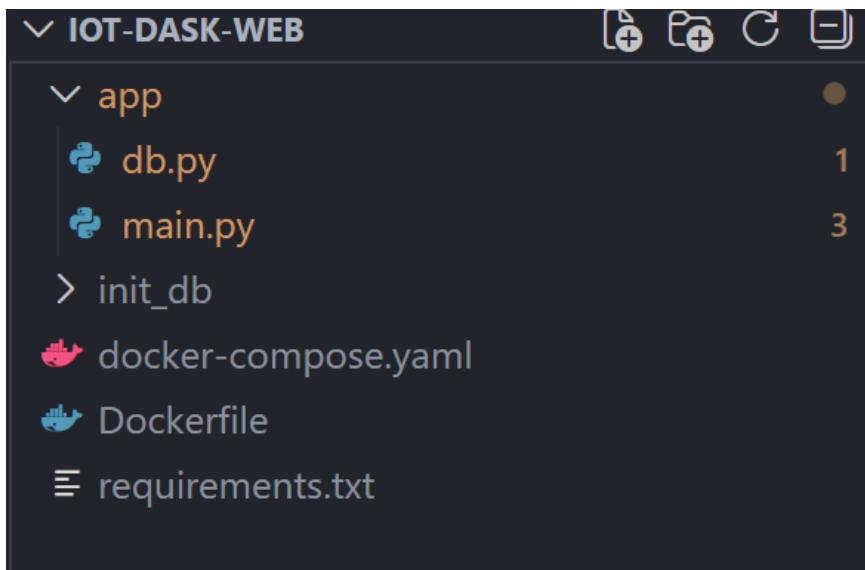


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program db.py

```
from sqlalchemy import create_engine

DATABASE_URL = "mysql+pymysql://root:root@db:3306/iotdb"
engine = create_engine(DATABASE_URL)

DB_URL = "mysql+pymysql://root:root@db:3306/iotdb"

engine = create_engine(DB_URL)
```

Program main.py

```
from fastapi import FastAPI
from fastapi.responses import HTMLResponse
from datetime import datetime
import dash.dataframe as dd
from db import engine

app = FastAPI(title="IoT Dask Web API")
```

```

@app.get("/")
def root():
    return {"message": "IoT Dask Web API is running"}


@app.post("/sensor")
async def add_sensor(data: dict):
    return {
        "status": "ok",
        "data": data,
        "time": datetime.now()
    }

@app.get("/list", response_class=HTMLResponse)
def list_data():
    query = "SELECT * FROM iot_sensor_events"

    ddf = dd.read_sql_query(
        query,
        engine,
        index_col="event_id"
    )

    df = ddf.compute()
    html_table = df.to_html(index=False)

    return f"""
<html>
    <body>
        <h2>Data IoT Sensor Events</h2>
        {html_table}
    </body>
</html>
"""

```

Program docker-compose.yaml

```

version: "3.9"

services:
  db:
    image: mysql:8.0
    container_name: mysql_iot
    environment:

```

```
MYSQL_ROOT_PASSWORD: root
MYSQL_DATABASE: iotdb
ports:
- "3307:3306"
volumes:
- ./init_db:/docker-entrypoint-initdb.d

web:
build: .
container_name: iot_task_web
ports:
- "8123:8123"
depends_on:
- db
```

File dockerfile

```
FROM python:3.11-slim

WORKDIR /app

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

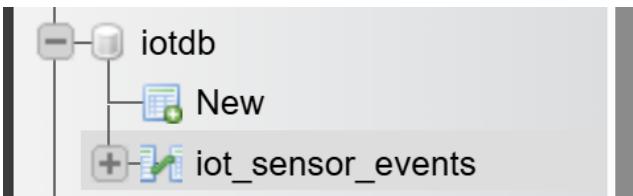
COPY app/ .

CMD ["uvicorn", "main:app", "--host", "0.0.0.0", "--port", "8123"]
```

requirements.txt

```
fastapi
uvicorn
sqlalchemy
pymysql
dask[dataframe]
pandas
```

SQL



| | event_id | sensor_node | sensor_type | sensor_value | event_time |
|--------------------------|--------------------|-------------|-------------|--------------|--------------------------|
| <input type="checkbox"/> | Edit Copy Delete | 1 | NODE-A1 | temperature | 29.5 2026-01-20 10:24:16 |
| <input type="checkbox"/> | Edit Copy Delete | 2 | NODE-B2 | humidity | 64.2 2026-01-20 10:24:16 |
| <input type="checkbox"/> | Edit Copy Delete | 3 | NODE-C3 | vibration | 0.82 2026-01-20 10:24:16 |

Check all With selected: Edit Copy Delete Export

Docker

iot-dask-web

| | | | | |
|-------|----------------------------------|-----------------------------|-------------------|------------------------|
| db ● | mysql:8.0 | 3307:3306 ↗ | ⋮ | Delete |
| web ● | iot-dask-web-web | 8123:8123 ↗ | ⋮ | Delete |

Containers / iot_dask_web

iot_dask_web

| | | |
|--------------|---|-----------------------------|
| dde6f4493293 | iot-dask-web-web:latest | 8123:8123 ↗ |
|--------------|---|-----------------------------|

Logs Inspect Bind mounts Exec Files Stats

```
INFO: Started server process [1]
INFO: Waiting for application startup.
INFO: Application startup complete.
INFO: Uvicorn running on http://0.0.0.0:8123 (Press CTRL+C to quit)
```

IoT Task Web API 0.1.0 OAS 3.1

[/openapi.json](#)

default

/ Root

/sensor Add Sensor

/list List Data

Schemas

HTTPValidationError > Expand all object

ValidationError > Expand all object