

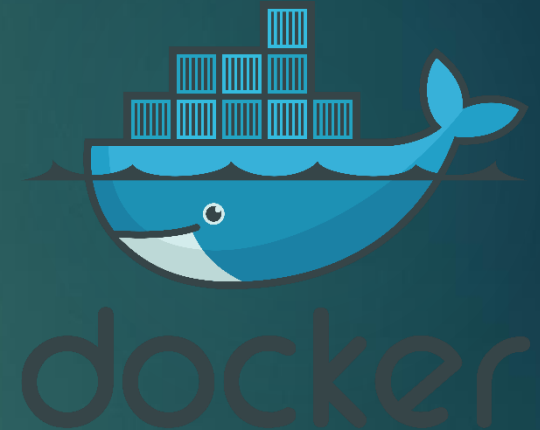
COMPALINT MANAGEMENT SYSTEM

FINAL TERM Project

FastAPI, Kafka, Kong, Streamlit with Docker



Streamlit



Submitted by: TAJ AHMED (PDG DS&AI BV)

```
D:\>poetry new Complaint_Management_System
```

```
Created package complaint_management_system in Complaint_Management_System
```

```
D:\>_
```

Complaint_Management_System

— □ ✕

+ New ▾



↑↓ Sort ▾

≡ View ▾



< > ▾ ↑

📁 > This PC > Local Disk (D:) > Complaint_Management_System ▾ ↻

🔍 Search Complaint_Management_System

Name	Date modified	Type	Size
📁 complaint_management_system	23-Jun-24 12:50 PM	File folder	
📁 tests	23-Jun-24 12:50 PM	File folder	
📄 pyproject.toml	23-Jun-24 12:50 PM	Toml Source File	1 KB
📄 README.md	23-Jun-24 12:50 PM	Markdown Source...	0 KB

D:\Complaint_Management_System>poetry shell

Creating virtualenv complaint-management-system-uiWtdocs-py3.12 in C:\Users\HP\AppData\Local\pypoetry\Cache\virtualenvs

Spawning shell within C:\Users\HP\AppData\Local\pypoetry\Cache\virtualenvs\complaint-management-system-uiWtdocs-py3.12

D:\Complaint_Management_System>()

(complaint-management-system-py3.12) D:\Complaint_Management_System>poetry install

Updating dependencies

Resolving dependencies... (0.1s)

Writing lock file

Installing the current project: complaint-management-system (0.1.0)

(complaint-management-system-py3.12) D:\Complaint_Management_System>

Complaint_Management_System

New ▾       Sort ▾ View ▾ ...

← → ▾ ↑ > This PC > Local Disk (D:) > Complaint_Management_System ▾ ↻

🔍 Search Complaint_Management_System

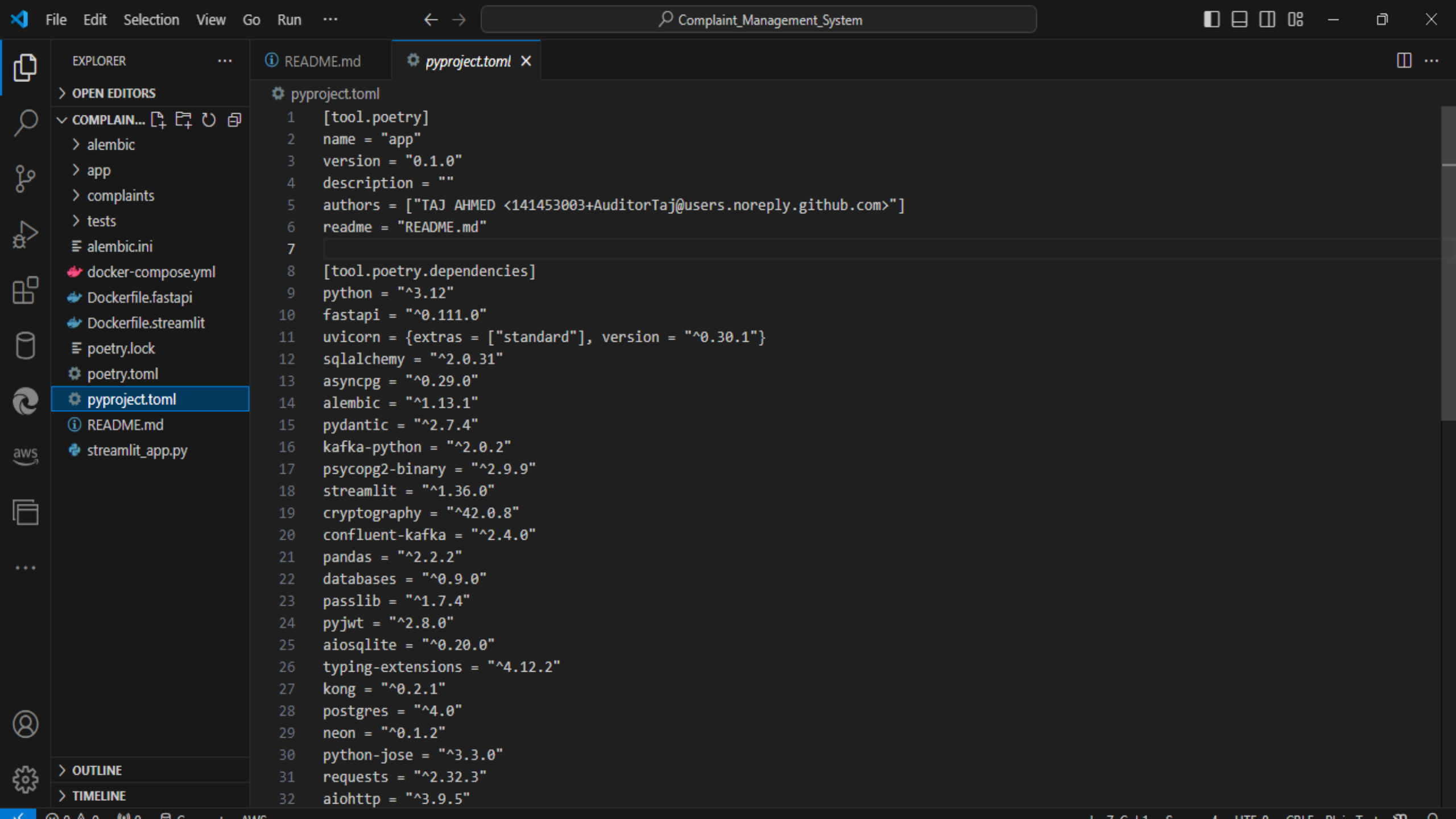
Name	Date modified	Type	Size
complaint_management_system	23-Jun-24 12:50 PM	File folder	
tests	23-Jun-24 12:50 PM	File folder	
poetry.lock	23-Jun-24 1:01 PM	LOCK File	236 KB
pyproject.toml	23-Jun-24 1:01 PM	Toml Source File	1 KB
README.md	23-Jun-24 12:50 PM	Markdown Source...	0 KB

```
(complaint-management-system-py3.12) D:\Complaint_Management_System>poetry add fastapi uvicorn[standard] sqlalchemy asyncpg alembic pydantic kafka-python psycpg2-binary streamlit cryptography
Using version ^0.111.0 for fastapi
Using version ^0.30.1 for uvicorn
Using version ^2.0.31 for sqlalchemy
Using version ^0.29.0 for asyncpg
Using version ^1.13.1 for alembic
Using version ^2.7.4 for pydantic
Using version ^2.0.2 for kafka-python
Using version ^2.9.9 for psycpg2-binary
Using version ^1.36.0 for streamlit
Using version ^42.0.8 for cryptography
```

```
Updating dependencies
Resolving dependencies... (16.5s)
```

```
Package operations: 76 installs, 0 updates, 0 removals
```

- Installing attrs (23.2.0)
- Installing mdurl (0.1.2)
- Installing rpds-py (0.18.1)
- Installing colorama (0.4.6)
- Installing idna (3.7)
- Installing markdown-it-py (3.0.0)
- Installing pygments (2.18.0)
- Installing referencing (0.35.1)
- Installing six (1.16.0)
- Installing sniffio (1.3.1)
- Installing anyio (4.4.0)
- Installing certifi (2024.6.2)
- Installing click (8.1.7)
- Installing h11 (0.14.0)
- Installing jsonschema-specifications (2023.12.1)
- Installing markupsafe (2.1.5)
- Installing numpy (2.0.0)
- Installing python-dateutil (2.9.0.post0)
- Installing pytz (2024.1)
- Installing rich (13.7.1)
- Installing shellingham (1.5.4)
- Installing smmap (5.0.1)
- Installing typing-extensions (4.12.2)
- Installing tzdata (2024.1)



EXPLORER

> OPEN EDITORS

COMPLAIN...

- > alembic
- > app
- > complaints
- > tests
- alembic.ini
- docker-compose.yml
- Dockerfile.fastapi
- Dockerfile.streamlit
- poetry.lock
- poetry.toml
- pyproject.toml**
- README.md
- streamlit_app.py

> OUTLINE

> TIMELINE

README.md

pyproject.toml

pyproject.toml

```
1 [tool.poetry]
2   name = "app"
3   version = "0.1.0"
4   description = ""
5   authors = ["TAJ AHMED <141453003+AuditorTaj@users.noreply.github.com>"]
6   readme = "README.md"
7
8 [tool.poetry.dependencies]
9   python = "^3.12"
10  fastapi = "^0.111.0"
11  uvicorn = {extras = ["standard"], version = "^0.30.1"}
12  sqlalchemy = "^2.0.31"
13  asyncpg = "^0.29.0"
14  alembic = "^1.13.1"
15  pydantic = "^2.7.4"
16  kafka-python = "^2.0.2"
17  psycpg2-binary = "^2.9.9"
18  streamlit = "^1.36.0"
19  cryptography = "^42.0.8"
20  confluent-kafka = "^2.4.0"
21  pandas = "^2.2.2"
22  databases = "^0.9.0"
23  passlib = "^1.7.4"
24  pyjwt = "^2.8.0"
25  aiosqlite = "^0.20.0"
26  typing-extensions = "^4.12.2"
27  kong = "^0.2.1"
28  postgres = "^4.0"
29  neon = "^0.1.2"
30  python-jose = "^3.3.0"
31  requests = "^2.32.3"
32  aiohttp = "^3.9.5"
```

FileEditSelectionViewGoRun...Complaint_Management_System

PROBLEMSOUTPUTDEBUG CONSOLETERMINALPORTSSQL CONSOLEpoetry⚠️+⌵⌵⌵⌵⌵⌵⌵⌵

(complaint-management-system-py3.12) PS D:\Complaint_Management_System> poetry add confluent_kafka
Using version ^2.4.0 for confluent-kafka

Updating dependencies
Resolving dependencies... (1.0s)

Package operations: 1 install, 0 updates, 0 removals

- Installing confluent-kafka (2.4.0)

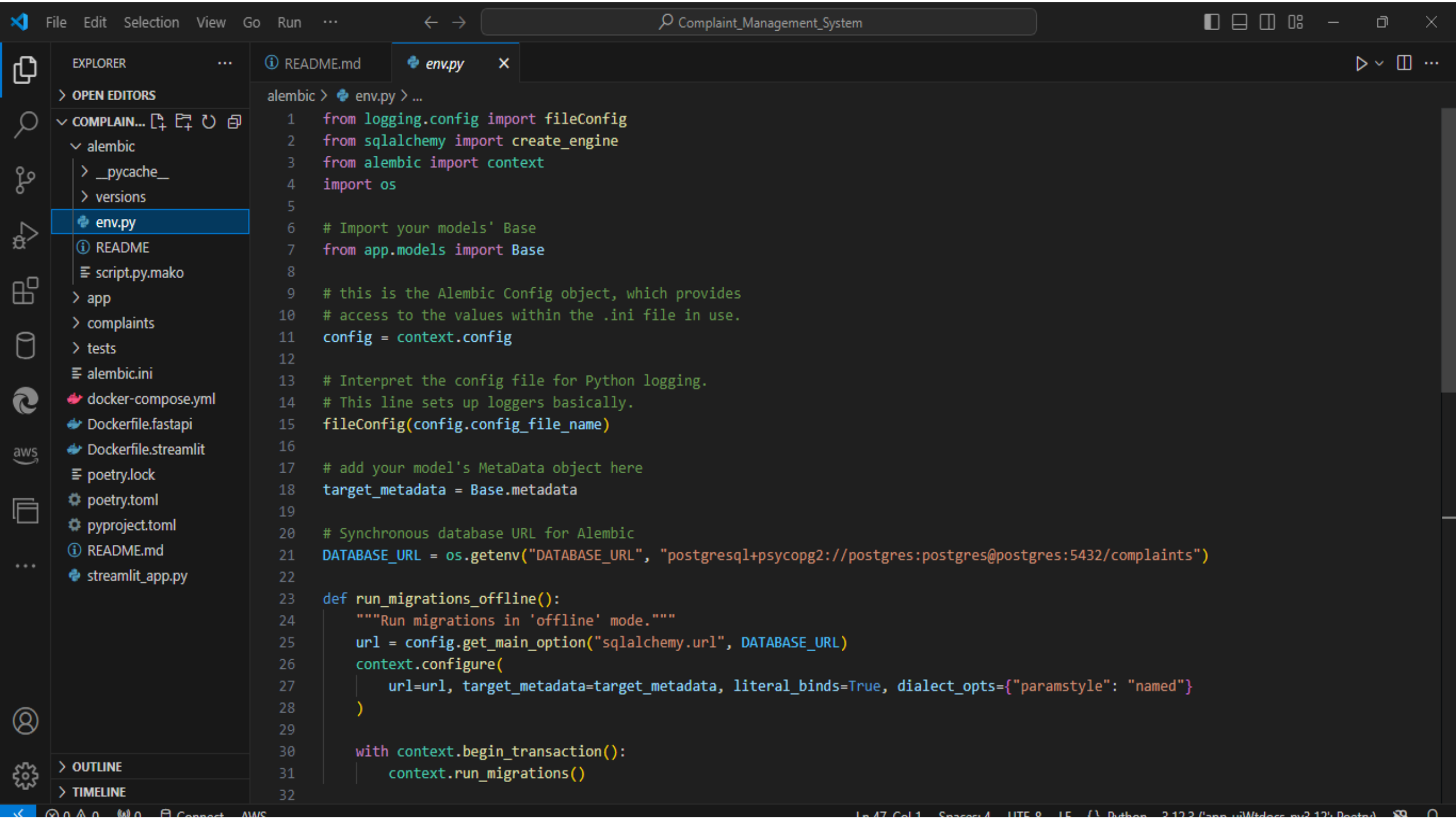
Writing lock file
(complaint-management-system-py3.12) PS D:\Complaint_Management_System>

FileEditSelectionViewGoRun...Complaint_Management_System

PROBLEMSOUTPUTDEBUG CONSOLETERMINALPORTSSQL CONSOLEpoetry⚠️+⌵⌵⌵⌵⌵⌵⌵⌵

EXPLORER...
OPEN EDITORS
x ⓘ README.md
COMPLAINT_MANAGEMENT...
alembic
complaint_managem...
tests
alembic.ini
poetry.lock
pyproject.toml
README.md

(complaint-management-system-py3.12) PS D:\Complaint_Management_System> alembic init alembic
>>
Creating directory 'D:\\Complaint_Management_System\\alembic' ... done
Creating directory 'D:\\Complaint_Management_System\\alembic\\versions' ... done
Generating D:\Complaint_Management_System\alembic.ini ... done
Generating D:\Complaint_Management_System\alembic\env.py ... done
Generating D:\Complaint_Management_System\alembic\README ... done
Generating D:\Complaint_Management_System\alembic\script.py.mako ... done
Please edit configuration/connection/logging settings in 'D:\\Complaint_Management_System\\alembic.ini' before proceeding.
(complaint-management-system-py3.12) PS D:\Complaint_Management_System>



EXPLORER

> OPEN EDITORS

COMPLAIN...

alembic

> __pycache__

> versions

env.py

README

script.py.mako

> app

> complaints

> tests

alembic.ini

docker-compose.yml

Dockerfile.fastapi

Dockerfile.streamlit

poetry.lock

poetry.toml

pyproject.toml

README.md

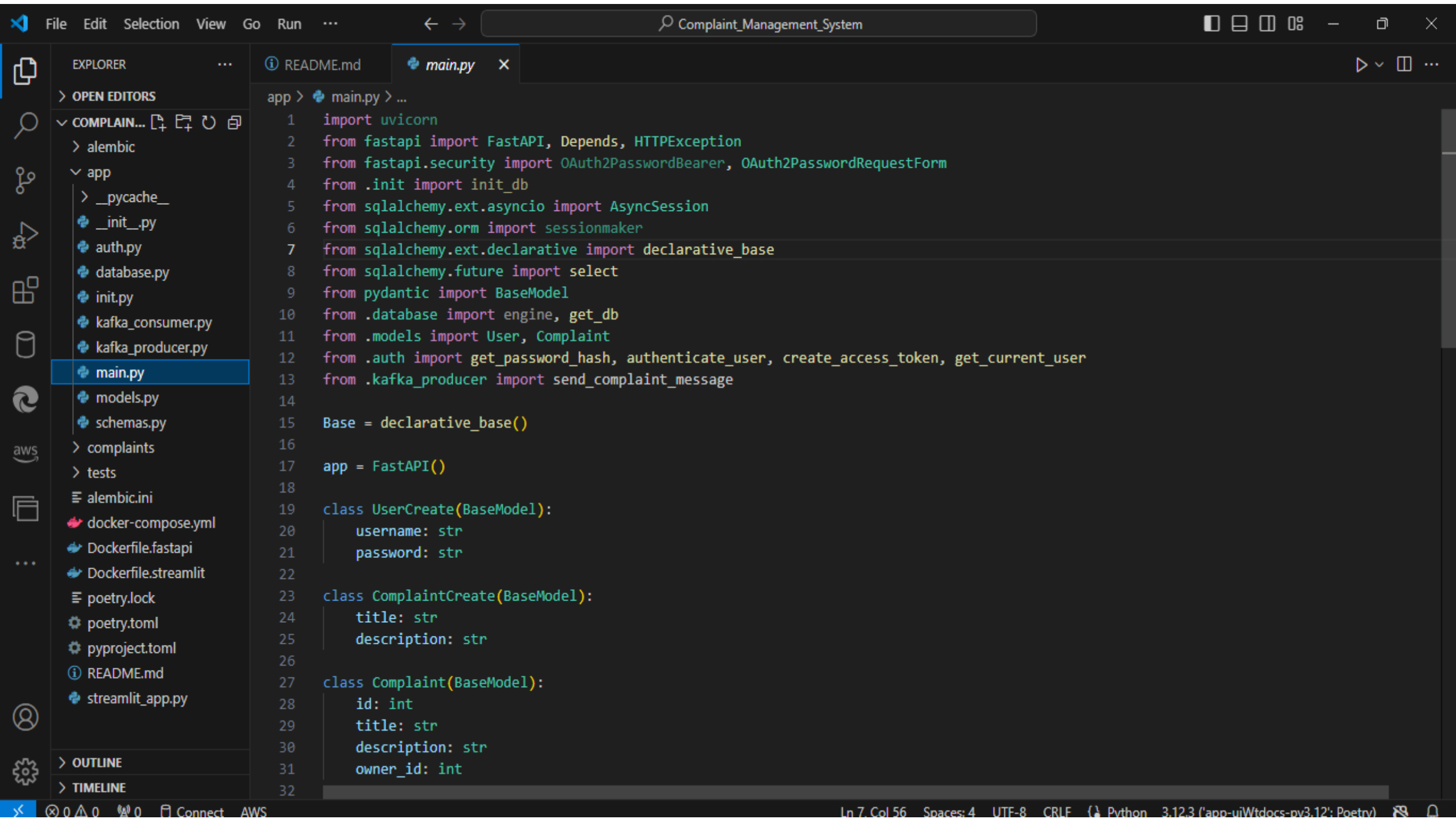
streamlit_app.py

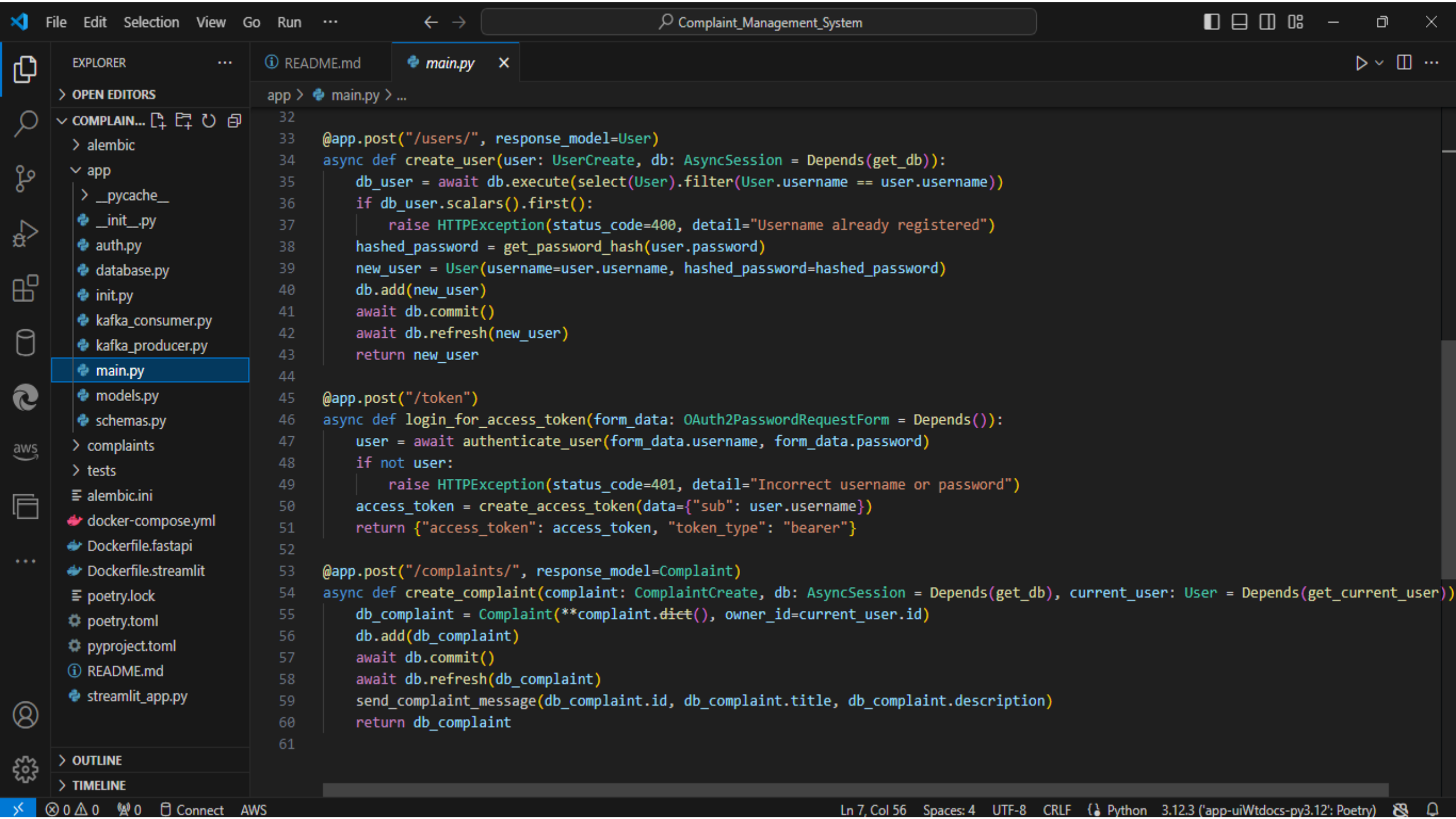
README.md

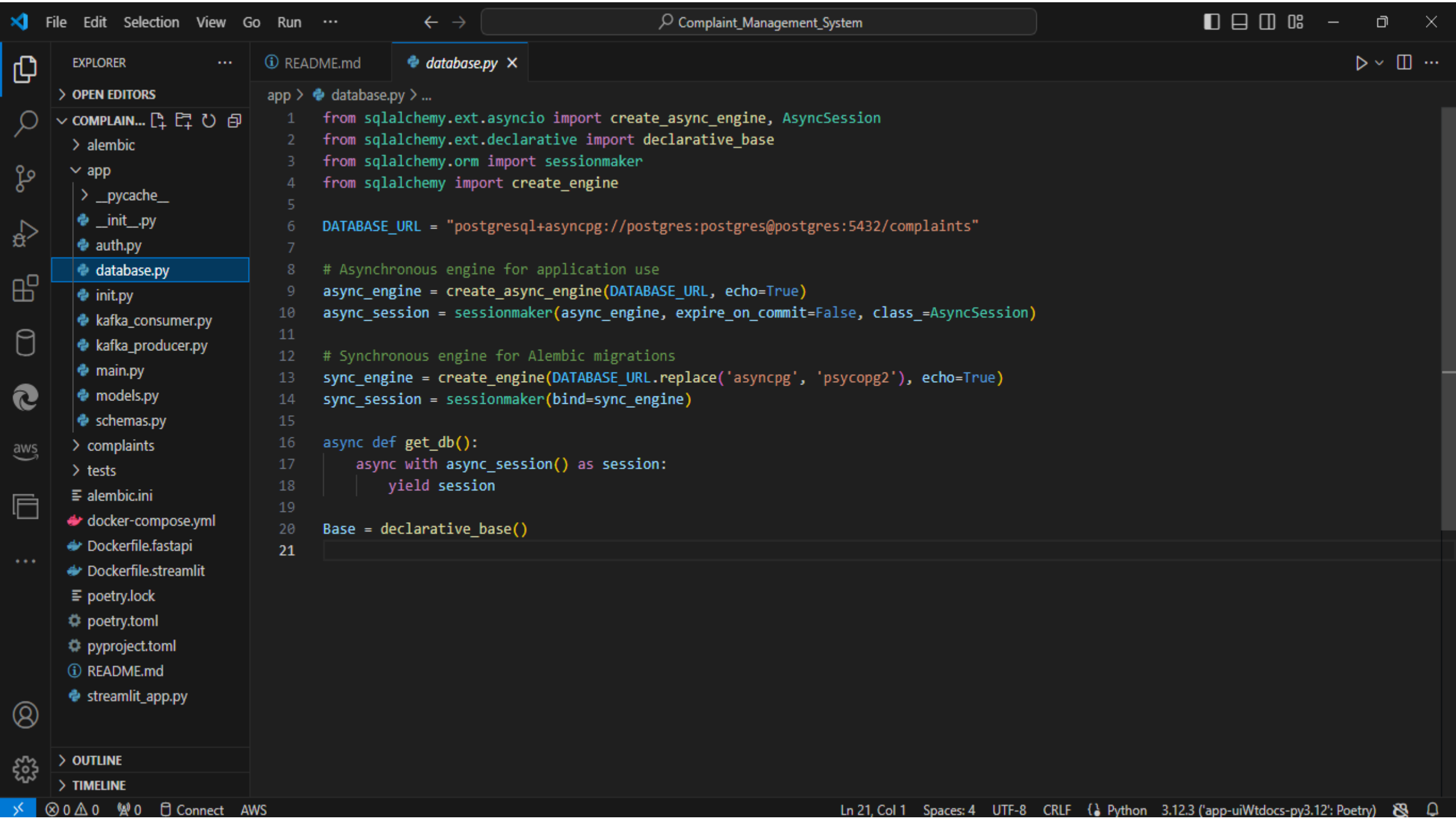
env.py

alembic > env.py > ...

```
1 from logging.config import fileConfig
2 from sqlalchemy import create_engine
3 from alembic import context
4 import os
5
6 # Import your models' Base
7 from app.models import Base
8
9 # this is the Alembic Config object, which provides
10 # access to the values within the .ini file in use.
11 config = context.config
12
13 # Interpret the config file for Python logging.
14 # This line sets up loggers basically.
15 fileConfig(config.config_file_name)
16
17 # add your model's MetaData object here
18 target_metadata = Base.metadata
19
20 # Synchronous database URL for Alembic
21 DATABASE_URL = os.getenv("DATABASE_URL", "postgresql+psycopg2://postgres:postgres@postgres:5432/complaints")
22
23 def run_migrations_offline():
24     """Run migrations in 'offline' mode."""
25     url = config.get_main_option("sqlalchemy.url", DATABASE_URL)
26     context.configure(
27         url=url, target_metadata=target_metadata, literal_binds=True, dialect_opts={"paramstyle": "named"}
28     )
29
30     with context.begin_transaction():
31         context.run_migrations()
32
```





```
File Edit Selection View Go Run ... Complaint_Management_System
```

```
EXPLORER
```

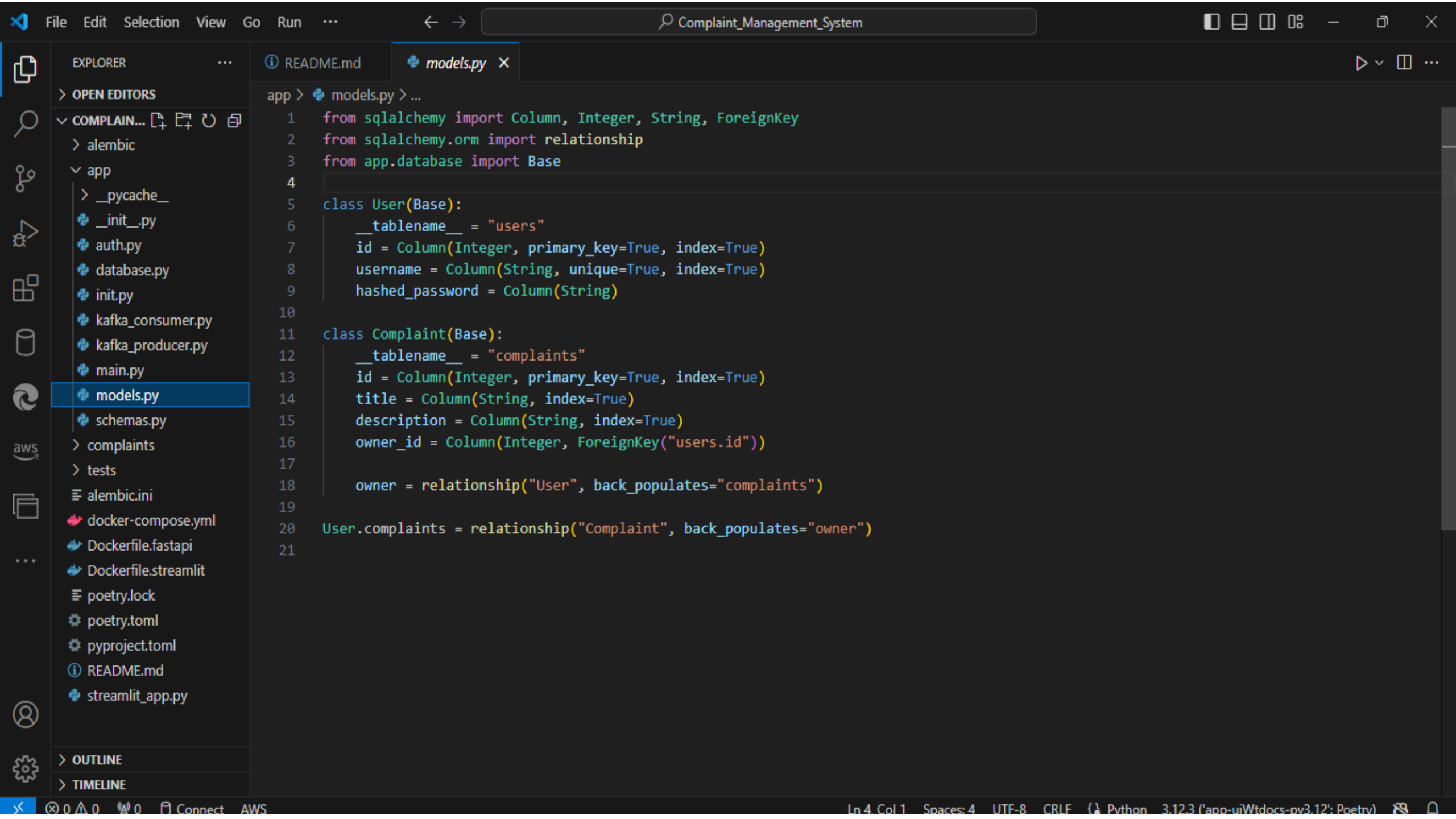
```
> OPEN EDITORS
```

```
COMPLAIN...  
  alembic  
  app  
    __pycache__  
    __init__.py  
    auth.py  
    database.py  
    init.py  
    kafka_consumer.py  
    kafka_producer.py  
    main.py  
    models.py  
    schemas.py  
  complaints  
  tests  
  alembic.ini  
  docker-compose.yml  
  Dockerfile.fastapi  
  Dockerfile.streamlit  
  poetry.lock  
  poetry.toml  
  pyproject.toml  
  README.md  
  streamlit_app.py
```

```
database.py
```

```
app > database.py > ...  
1 from sqlalchemy.ext.asyncio import create_async_engine, AsyncSession  
2 from sqlalchemy.ext.declarative import declarative_base  
3 from sqlalchemy.orm import sessionmaker  
4 from sqlalchemy import create_engine  
5  
6 DATABASE_URL = "postgresql+asyncpg://postgres:postgres@postgres:5432/complaints"  
7  
8 # Asynchronous engine for application use  
9 async_engine = create_async_engine(DATABASE_URL, echo=True)  
10 async_session = sessionmaker(async_engine, expire_on_commit=False, class_=AsyncSession)  
11  
12 # Synchronous engine for Alembic migrations  
13 sync_engine = create_engine(DATABASE_URL.replace('asyncpg', 'psycopg2'), echo=True)  
14 sync_session = sessionmaker(bind=sync_engine)  
15  
16 async def get_db():  
17     async with async_session() as session:  
18         yield session  
19  
20 Base = declarative_base()  
21
```

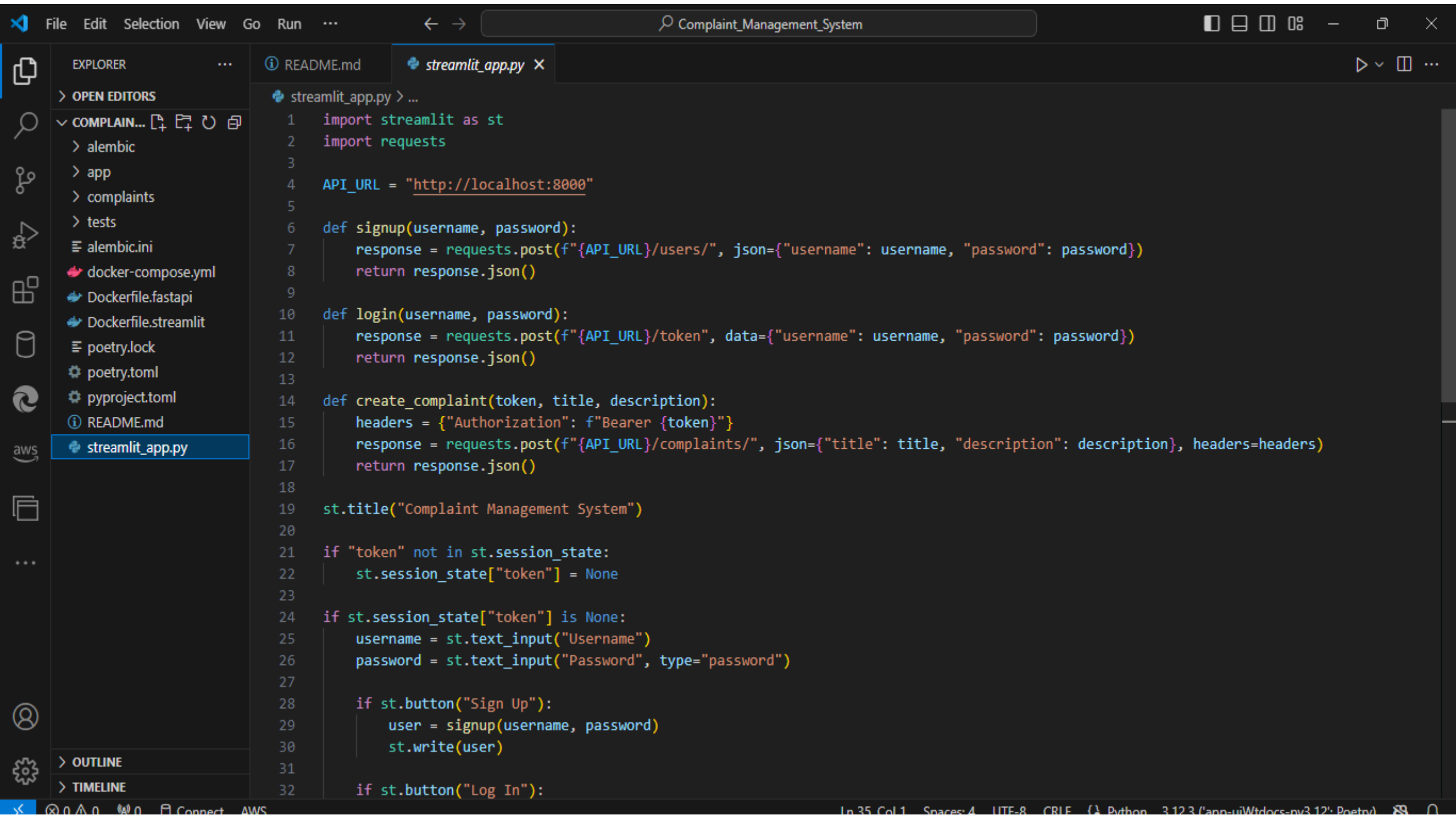
```
Ln 21, Col 1 Spaces: 4 UTF-8 CRLF Python 3.12.3 ('app-uiWtdocs-py3.12': Poetry)
```

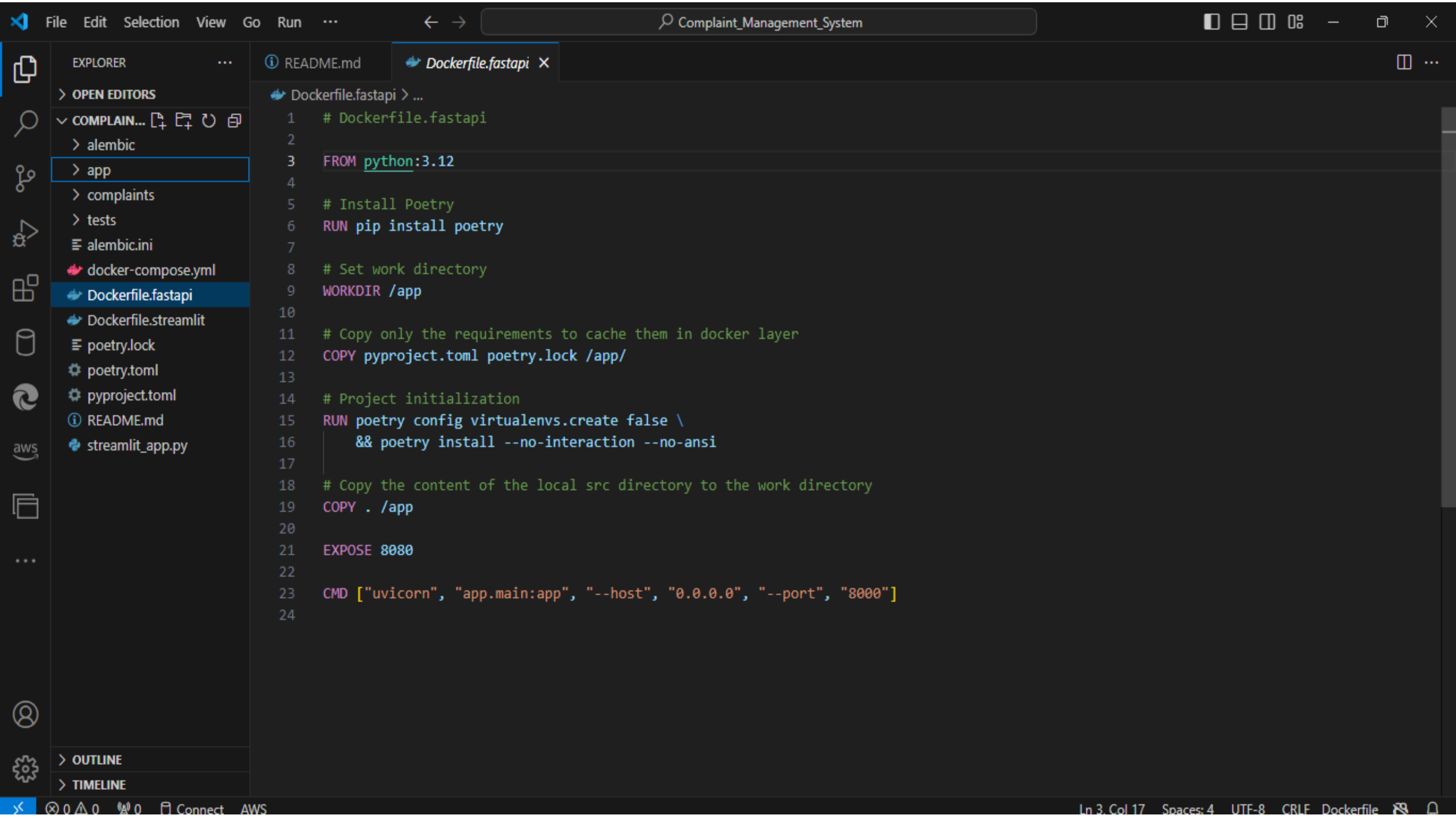


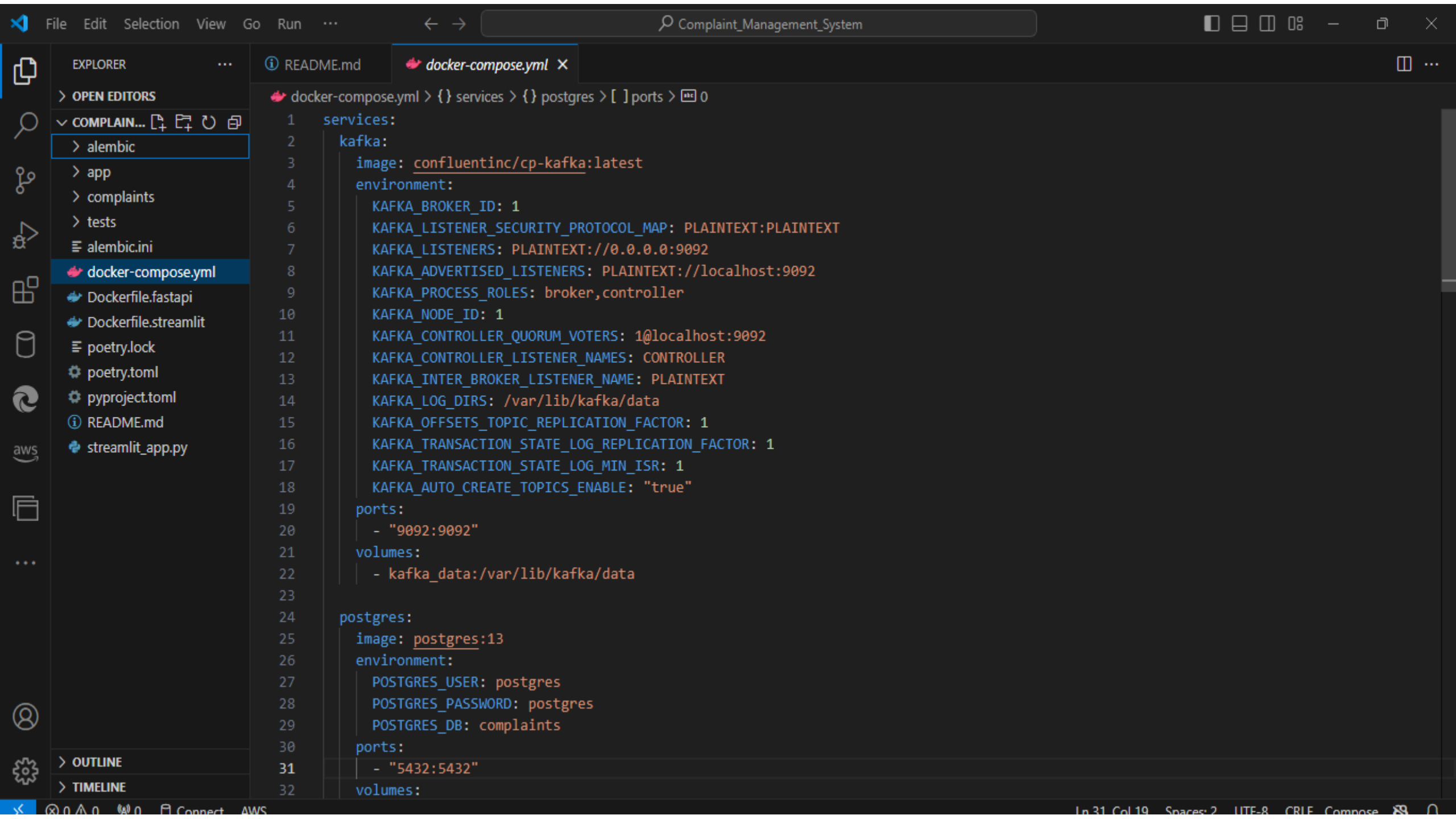
```
File Edit Selection View Go Run ... Complaint_Management_System

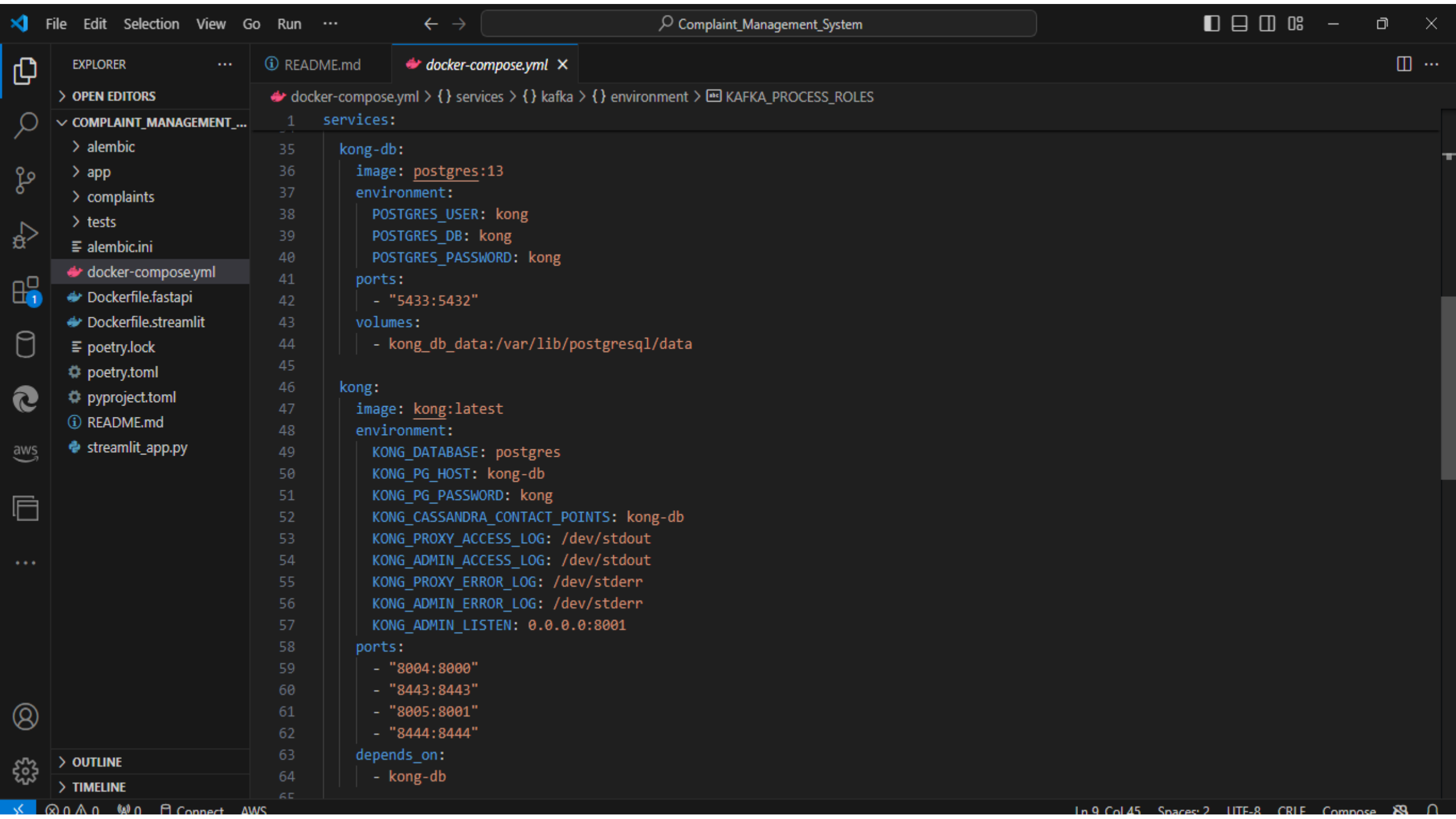
EXPLORER
> OPEN EDITORS
COMPLAIN...
  > alembic
  > app
    > __pycache__
    __init__.py
    auth.py
    database.py
    init.py
    kafka_consumer.py
    kafka_producer.py
    main.py
    models.py
    schemas.py
  > complaints
  > tests
  alembic.ini
  docker-compose.yml
  Dockerfile.fastapi
  Dockerfile.streamlit
  poetry.lock
  poetry.toml
  pyproject.toml
  README.md
  streamlit_app.py

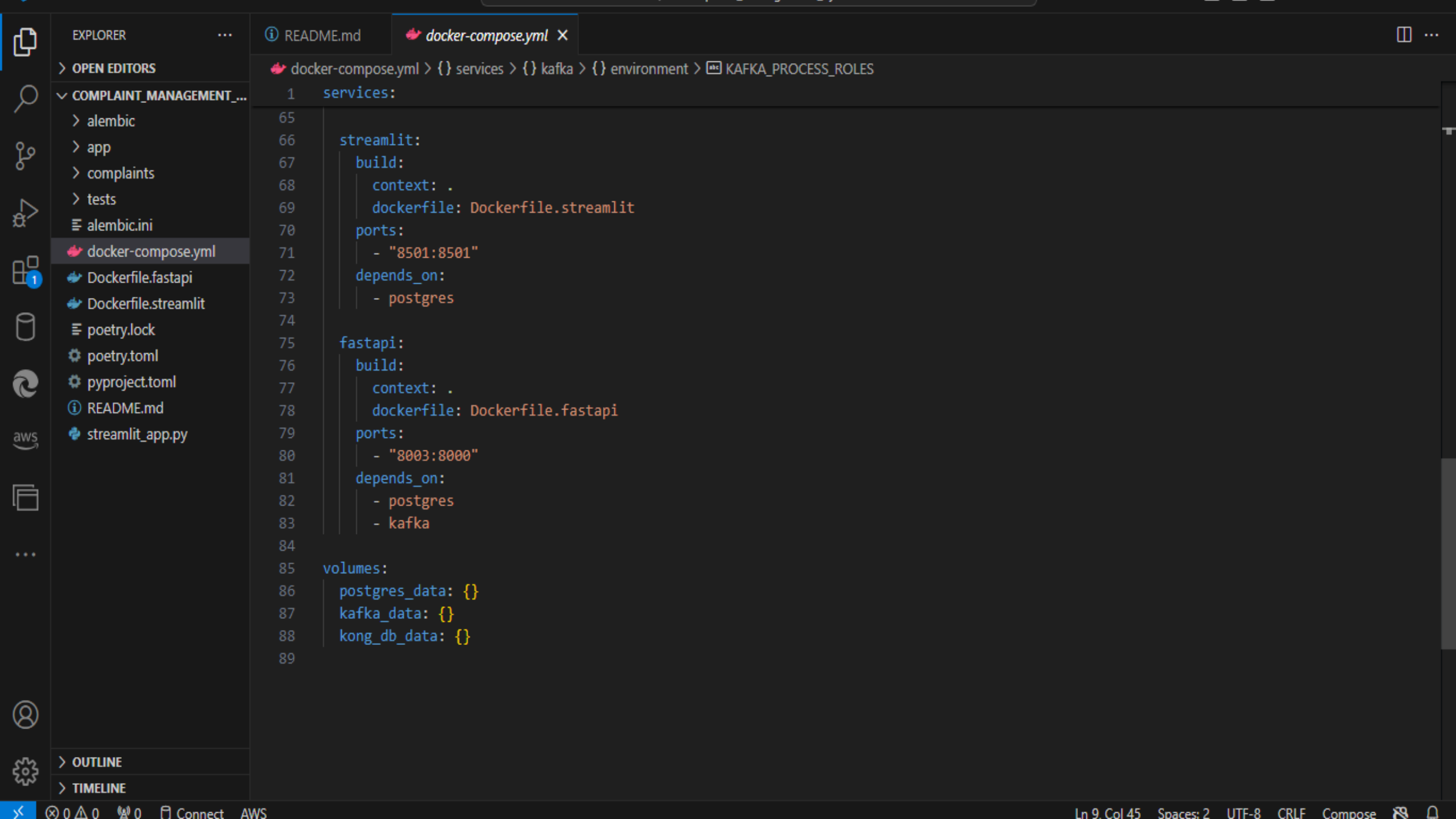
app > models.py > ...
1  from sqlalchemy import Column, Integer, String, ForeignKey
2  from sqlalchemy.orm import relationship
3  from app.database import Base
4
5  class User(Base):
6      __tablename__ = "users"
7      id = Column(Integer, primary_key=True, index=True)
8      username = Column(String, unique=True, index=True)
9      hashed_password = Column(String)
10
11  class Complaint(Base):
12      __tablename__ = "complaints"
13      id = Column(Integer, primary_key=True, index=True)
14      title = Column(String, index=True)
15      description = Column(String, index=True)
16      owner_id = Column(Integer, ForeignKey("users.id"))
17
18      owner = relationship("User", back_populates="complaints")
19
20  User.complaints = relationship("Complaint", back_populates="owner")
21
```











EXPLORER

...

README.md

docker-compose.yml X

> OPEN EDITORS

COMPLAINT_MANAGEMENT_...

> alembic

> app

> complaints

> tests

alembic.ini

docker-compose.yml

Dockerfile.fastapi

Dockerfile.streamlit

poetry.lock

poetry.toml

pyproject.toml

README.md

streamlit_app.py

> OUTLINE

> TIMELINE

docker-compose.yml > {} services > {} kafka > {} environment > KAFKA_PROCESS_ROLES

```
1  services:
65
66      streamlit:
67          build:
68              context: .
69              dockerfile: Dockerfile.streamlit
70          ports:
71              - "8501:8501"
72          depends_on:
73              - postgres
74
75      fastapi:
76          build:
77              context: .
78              dockerfile: Dockerfile.fastapi
79          ports:
80              - "8003:8000"
81          depends_on:
82              - postgres
83              - kafka
84
85      volumes:
86          postgres_data: {}
87          kafka_data: {}
88          kong_db_data: {}
89
```

```

o (app-py3.12) PS D:\Complaint_Management_System> docker-compose up
[+] Running 10/10
  ✓ Network complaint_management_system_default      Created           1.4s
  ✓ Volume "complaint_management_system_postgres_data" Cr...       0.4s
  ✓ Volume "complaint_management_system_kong_db_data"  Cre...           0.3s
  ✓ Volume "complaint_management_system_kafka_data"   Creat...          0.1s
  ✓ Container complaint_management_system-postgres-1  Crea...          1.7s
  ✓ Container complaint_management_system-kong-db-1   Creat...          1.6s
  ✓ Container complaint_management_system-kafka-1     Created           1.4s
  ✓ Container complaint_management_system-kong-1      Created           3.7s
  ✓ Container complaint_management_system-fastapi-1   Creat...          5.6s
  ✓ Container complaint_management_system-streamlit-1 Cre...           5.5s
Attaching to fastapi-1, kafka-1, kong-1, kong-db-1, postgres-1, streamlit-1
kafka-1 | ==> User
kafka-1 | uid=1000(appuser) gid=1000(appuser) groups=1000(appuser)
kafka-1 | ==> Configuring ...
kafka-1 | Running in KRaft mode...
postgres-1 | The files belonging to this database system will be owned by user "postgres".
postgres-1 | This user must also own the server process.
kong-db-1 | The files belonging to this database system will be owned by user "postgres".
postgres-1 | This user must also own the server process.
postgres-1 | The database cluster will be initialized with locale "en_US.utf8".
kong-db-1 |
postgres-1 | The default database encoding has accordingly been set to "UTF8".
kong-db-1 | The database cluster will be initialized with locale "en_US.utf8".
postgres-1 | The default text search configuration will be set to "english".
kong-db-1 | The default database encoding has accordingly been set to "UTF8".
postgres-1 |
kong-db-1 | The default text search configuration will be set to "english".
postgres-1 | Data page checksums are disabled.
kong-db-1 |
postgres-1 |
kong-db-1 | Data page checksums are disabled.
postgres-1 | fixing permissions on existing directory /var/lib/postgresql/data ... ok
kong-db-1 |

```



Containers



Images



Volumes



Builds



Docker Scout



Extensions

Containers

[Give feedback](#)

Container CPU usage ⓘ

0.25% / 400% (4 CPUs available)

Container memory usage ⓘ

70.99MB / 3.64GB

[Show charts](#)



Search



Only show running containers

<input type="checkbox"/>	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	<div> <div> <div>complaint_management</div> <div>Running (6/6)</div> </div> </div>				0.19%	2 seconds ago	<div> </div>
<input type="checkbox"/>	<div> <div> <div>kafka-1</div> <div>c9d473230b1e </div> </div> </div>	confluentinc/cp-kaf	Running	9092:9092	0%	2 seconds ago	<div> </div>
<input type="checkbox"/>	<div> <div> <div>kong-db-1</div> <div>98ca406a6861 </div> </div> </div>	postgres:13	Running	5433:5432	0.1%	18 seconds ago	<div> </div>
<input type="checkbox"/>	<div> <div> <div>postgres-1</div> <div>1eece5f682c9 </div> </div> </div>	postgres:13	Running	5432:5432	0.09%	18 seconds ago	<div> </div>
<input type="checkbox"/>	<div> <div> <div>kong-1</div> <div>02ed3f498fba </div> </div> </div>	kong:latest	Running	8004:8000 Show all ports (4)	0%	2 seconds ago	<div> </div>
<input type="checkbox"/>	<div> <div> <div>fastapi-1</div> <div>6c955b623b51 </div> </div> </div>	complaint_manager	Running	8003:8000	0%	2 seconds ago	<div> </div>

Showing 7 items



Containers



Images



Volumes



Builds



Docker Scout



Extensions



complaint_management_system

D:\Complaint_Management_System

Open



complaint_manag...

[confluentinc/cp-kafk](#)

Running

[9092:9092](#)



complaint_manag...

[postgres:13](#)

Running

[5433:5432](#)



complaint_manag...

[postgres:13](#)

Running

[5432:5432](#)



complaint_manag...

[kong:latest](#)

Running

[8004:8000](#)

[Show all ports \(4\)](#)



complaint_manag...

[complaint_manager](#)

Running

[8003:8000](#)

complaint_manag...

[complaint manager](#)

```
2024-06-28 03:02:48 kong-db-1 |
2024-06-28 03:02:48 kong-db-1 | PostgreSQL Database directory appears to contain a database;
2024-06-28 03:02:48 kong-db-1 | Skipping initialization
2024-06-28 03:02:48 kong-db-1 |
2024-06-28 02:58:45 postgres-1 | fixing permissions on existing directory /var/lib/postgresql
2024-06-28 02:58:45 postgres-1 | /data ... ok
2024-06-28 02:58:45 postgres-1 | creating subdirectories ... ok
2024-06-28 02:58:45 postgres-1 | selecting dynamic shared memory implementation ... posix
2024-06-28 02:58:46 postgres-1 | selecting default max_connections ... 100
2024-06-28 02:58:46 postgres-1 | selecting default shared_buffers ... 128MB
2024-06-28 02:58:47 postgres-1 | selecting default time zone ... Etc/UTC
2024-06-28 02:58:47 postgres-1 | creating configuration files ... ok
2024-06-28 02:58:49 postgres-1 | running bootstrap script ... ok
2024-06-28 03:02:48 kong-db-1 | 2024-06-27 22:02:48.843 UTC [1] LOG: starting PostgreSQL 13
2024-06-28 03:02:48 kong-db-1 | .15 (Debian 13.15-1.pgdg120+1) on x86_64-pc-linux-gnu, compiled by gcc (Debian 12.2.0-14) 12.2.
2024-06-28 03:02:48 kong-db-1 | 0, 64-bit
2024-06-28 03:02:48 kong-db-1 | 2024-06-27 22:02:48.850 UTC [1] LOG: listening on IPv4 addr
2024-06-28 03:02:48 kong-db-1 | ess "0.0.0.0", port 5432
2024-06-28 03:02:48 kong-db-1 | 2024-06-27 22:02:48.856 UTC [1] LOG: listening on IPv6 addr
2024-06-28 03:02:48 kong-db-1 | ess "::", port 5432
2024-06-28 03:02:48 kong-db-1 | 2024-06-27 22:02:48.879 UTC [1] LOG: listening on Unix sock
2024-06-28 03:02:48 kong-db-1 | et "/var/run/postgresql/.s.PGSQL.5432"
2024-06-28 03:02:48 kong-db-1 | 2024-06-27 22:02:48.921 UTC [27] LOG: database system was s
2024-06-28 03:02:48 kong-db-1 | hut down at 2024-06-27 22:02:46 UTC
2024-06-28 03:02:49 kong-db-1 | 2024-06-27 22:02:49.010 UTC [1] LOG: database system is rea
2024-06-28 03:02:49 kong-db-1 | dy to accept connections
2024-06-28 02:58:56 postgres-1 | performing post-bootstrap initialization ... ok
2024-06-28 02:58:59 postgres-1 | syncing data to disk ... ok
2024-06-28 02:58:59 postgres-1 |
```



Deploy ⋮

Complaint Management System

Username

Password

Sign Up

Log In

