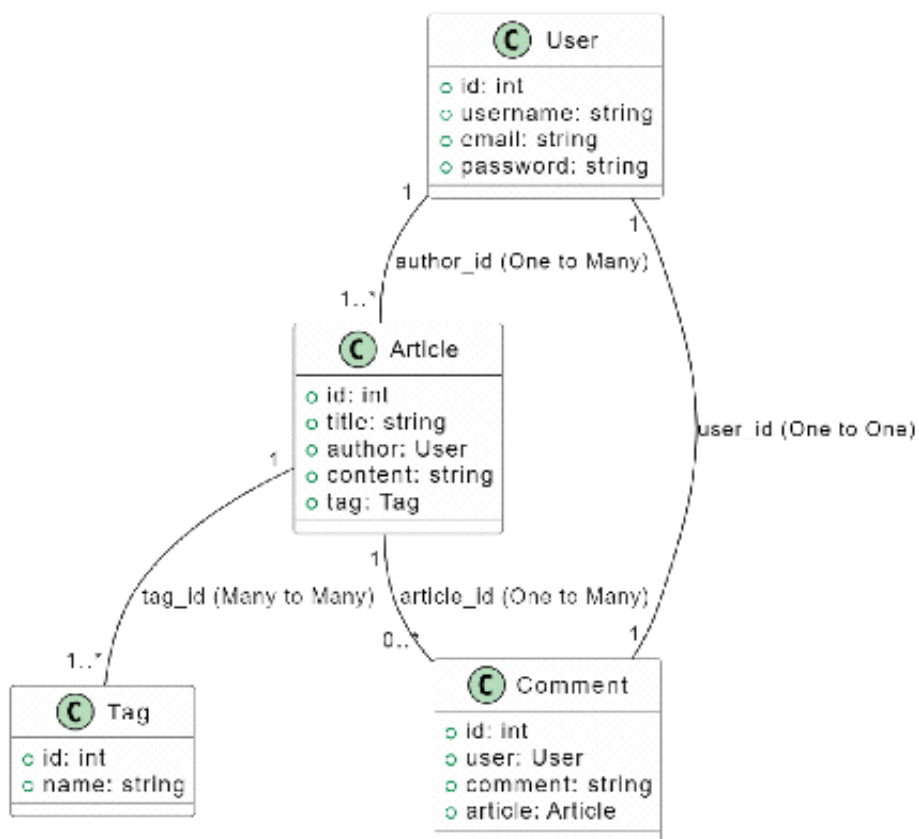


```
from sqlalchemy import Column, Integer, String, ForeignKey
```

```
from sqlalchemy.ext.declarative import declarative_base
```

```
from sqlalchemy.orm import relationship
```

```
Base = declarative_base()
```



1. Файл модуля

```
class User(Base):
```

```
__tablename__ = 'users'
```

```
id = Column(Integer, primary_key=True)
```

```
username = Column(String)
```

```
email = Column(String)
```

```
password = Column(String)
```

```
articles = relationship("Article", back_populates="author")
```

```
comments = relationship("Comment", back_populates="author")
```

```
class Article(Base):
```

```
__tablename__ = 'article'
```

```
id = Column(Integer, primary_key=True)
```

```
title = Column(String)
```

```
content = Column(String)
```

```
user_id = Column(Integer, ForeignKey('users.id'))
```

```
author = relationship("User", back_populates="articles")
```

```
comments = relationship("Comment", back_populates="article")
```

```
class Comment(Base):
```

```
__tablename__ = 'comment'
```

```
id = Column(Integer, primary_key=True)
```

```
comment = Column(String)

user_id = Column(Integer, ForeignKey('users.id'))

article_id = Column(Integer, ForeignKey('article.id'))


author = relationship("User", back_populates="comments")

article = relationship("Article", back_populates="comments")
```

2. Создание, изменение и удаление записи из таблицы

```
from sqlalchemy import create_engine
from sqlalchemy.orm import sessionmaker
from models import User
```

```
engine = create_engine('postgresql://alexandr@localhost/db_blog')
Session = sessionmaker(bind=engine)
session= Session()
```

```
new_User = User(username = input("Введите Имя пользователя:\n"), email = input("Введите email:\n"),
password = input("Введите пароль:\n"))
session.add(new_User)
print(new_User)
session.commit()
```

```
id | username | email | password
```

```
---+-----+-----+-----
```

```
1 | Traveler | trav2374@mail.ru | 314153pif
```

```
2 | Photoman5463 | bobphotoshoot@gmail.com | 4salkda
```

```
3 | Traveler | trav2374@mail.ru | 314153pif
```

```
4 | Gamer | plobjor@yandex.ru | dsf321ijaxadaosaj
```

```
5 | MovieMaker2144 | donbloot@gmail.com | hadjgasydsasa456!0aa4s5dsf
```

```
6 | Student | studentask@yandex.ru | 74uds=%sj
```

```
7 | TestOMR | test@gmail.com | 45asd6dadaDA64$%5a
```

```
from sqlalchemy import create_engine
from sqlalchemy.orm import sessionmaker
from models import User
```

```

engine = create_engine('postgresql://alexandr@localhost/db_blog')
Session = sessionmaker(bind=engine)
session= Session()

user_edit = session.query(User).filter_by(id=7).first()
user_edit.username = input("Введите новое имя пользователя")
session.commit()

```

db_blog=> SELECT * FROM users;

id	username	email	password
1	Traveler	trav2374@mail.ru	314153pif
2	Photoman5463	bobphotoshoot@gmail.com	4salkda
3	Traveler	trav2374@mail.ru	314153pif
4	Gamer	plobjor@yandex.ru	dsf321ijaxadaosaj
5	MovieMaker2144	donbloot@gmail.com	hadjgasydsasa456!0aa4s5dsf
6	Student	studentask@yandex.ru	74uds=%sj
7	OMR	test@gmail.com	45asd6dadaDA64\$%5a

(7 ёЁёЮъ)

```

from sqlalchemy import create_engine, Table, MetaData, Column, Integer, String
from sqlalchemy.orm import sessionmaker
from sqlalchemy.ext.declarative import declarative_base
# Установите соединение с вашей базой данных PostgreSQL
engine = create_engine('postgresql://alexandr@localhost/db_blog') # Укажите свои данные подключения
Session = sessionmaker(bind=engine)
session = Session()
# Определение метаданных и моделей таблиц
metadata = MetaData()

# Определение таблицы пользователей
users_table = Table('users', metadata,
    Column('id', Integer, primary_key=True),
    Column('username', String),
    Column('email', String),
    Column('password', String)
)

# Создание сессии SQLAlchemy

```

```

conn = engine.connect()

# Функция для удаления данных по имени пользователя
def delete_user_by_username(username):
    delete_query = users_table.delete().where(users_table.c.username == username)
    conn.execute(delete_query)

# Использование функции для удаления пользователя по имени пользователя
delete_user_by_username('OMR') # Замените 'имя_пользователя' на фактическое имя пользователя
session.commit()
# Закрытие соединения с базой данных
conn.close()

```

db_blog=> SELECT * FROM users;

id	username	email	password
1	Traveler	trav2374@mail.ru	314153pif
2	Photoman5463	bobphotoshoot@gmail.com	4salkda
3	Traveler	trav2374@mail.ru	314153pif
4	Gamer	plobjor@yandex.ru	dsf321ijaxadaosaj
5	MovieMaker2144	donbloot@gmail.com	hadjgasydsasa456!0aa4s5dsf
6	Student	studentask@yandex.ru	74uds=%sj

3. Select запром и вывод таблицы

```

from sqlalchemy import create_engine, Table, MetaData, Column, Integer, String
from sqlalchemy.orm import sessionmaker
from sqlalchemy.ext.declarative import declarative_base
# Установите соединение с вашей базой данных PostgreSQL
engine = create_engine('postgresql://alexandr@localhost/db_blog') # Укажите свои данные подключения
Session = sessionmaker(bind=engine)
session = Session()
# Определение метаданных и моделей таблиц
metadata = MetaData()
Base = declarative_base()

# Определение таблицы пользователей
class User(Base):
    __tablename__ = 'users'
    id = Column(Integer, primary_key=True)
    username = Column(String)
    email = Column(String)
    password = Column(String)

users= session.query(User).all()

```

```
for user in users:  
    print(f"Id: {user.id},Username: {user.username},Email: {user.email},Password: {user.password},")
```

Id: 1,Username: Traveler,Email: trav2374@mail.ru,Password: 314153pif,

Id: 2,Username: Photoman5463,Email: bobphotoshoot@gmail.com,Password: 4salkda,

Id: 3,Username: Traveler,Email: trav2374@mail.ru,Password: 314153pif,

Id: 4,Username: Gamer,Email: plobjor@yandex.ru,Password: dsf321ijaxadaosaj,

Id: 5,Username: MovieMaker2144,Email: donbloot@gmail.com,Password: hadjgasydsasa456!0aa4s5dsf,

Id: 6,Username: Student,Email: studentask@yandex.ru,Password: 74uds=%sj,

```
Id: 1,Username: Traveler,Email: trav2374@mail.ru,Password: 314153pif,  
Id: 2,Username: Photoman5463,Email: bobphotoshoot@gmail.com,Password: 4salkda,  
Id: 3,Username: Traveler,Email: trav2374@mail.ru,Password: 314153pif,  
Id: 4,Username: Gamer,Email: plobjor@yandex.ru,Password: dsf321ijaxadaosaj,  
Id: 5,Username: MovieMaker2144,Email: donbloot@gmail.com,Password: hadjgasydsasa456!0aa4s5dsf,  
Id: 6,Username: Student,Email: studentask@yandex.ru,Password: 74uds=%sj,  
Id: 7,Username: OMR,Email: test@gmail.com,Password: 45asd6dadaDA64$%5a,  
  
Process finished with exit code 0  
|
```