DOUGLAS DAVISON

FALLING IN LOVE WITH CRUD

A presentation on ORMs

Or,

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SQL: THE SEQUEL

A presentation on ORMs

First, an introductory video

Now, on to the ORM stuff

But first, let’s set the scene

The current situation

A cooler situation

How the SQLAlchemy ORM Works

Declare Models

Create an Engine

Start a session

Start using our DB with Python

check out: https://docs.sqlalchemy.org/en/20/orm/quickstart.html

Declare Models

Declarative Mapping:

Defines the structure of the data we’ll be working with

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Starts with a 'Declarative Base' class that we will inherit from

Declare Models

```
>>> from sqlalchemy import ForeignKey
>>> from sqlalchemy import String
>>> from sqlalchemy.orm import DeclarativeBase
>>> from sqlalchemy.orm import Mapped
>>> from sqlalchemy.orm import mapped_column
>>> from sqlalchemy.orm import relationship

>>> class Base(DeclarativeBase):
...     pass

>>> class User(Base):
...     __tablename__ = "user_account"
...
...     id: Mapped[int] = mapped_column(primary_key=True)
...     name: Mapped[str] = mapped_column(String(30))
...     fullname: Mapped[Optional[str]]
...
...     addresses: Mapped[List["Address"]] = relationship(
...         back_populates="user", cascade="all, delete-orphan"
...     )
...
...     def __repr__(self) -> str:
...         return f"User(id={self.id!r}, name={self.name!r}, fullname={self.fullname!r}

>>> class Address(Base):
...     __tablename__ = "address"
```

Create an Engine

We’ll use create_engine() and feed it a database URL:

```
dialect+driver://username:password@host:port/database
```

Create a Session

A session represents our actual connection to the database.

Holds our transactions until we commit them!

```
# Create a session
Session = sessionmaker(bind=engine)
session = Session()
```

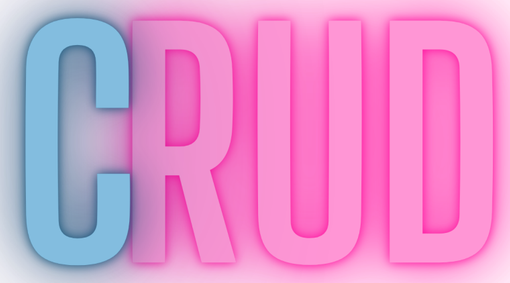
Sessions - ending them

We have to commit and close our connections when we're done

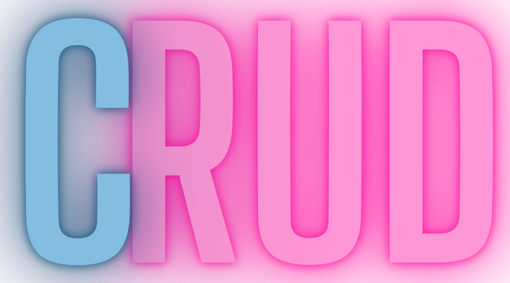
This is what actually makes it impact the database!

```
# Commit the changes & close the session
session.commit()
session.close()
```

Let’s talk about CRUD



Let’s create our valentines



Now let’s make a table of gifts

let’s read our data

let’s update our data to reflect our deepening affection

CRUD

You know what,
I forgot I only have money for one valentine.
Let’s delete the rest!

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THE END

Enjoy your CRUD!