

# Object-Relational Mapping

# Flask-SQLAlchemy

```
class Flight(db.Model):  
    __tablename__ = "flights"  
    id = db.Column(db.Integer, primary_key=True)  
    origin = db.Column(db.String, nullable=False)  
    destination = db.Column(db.String, nullable=False)  
    duration = db.Column(db.Integer, nullable=False)
```

```
CREATE TABLE flights (  
    id SERIAL PRIMARY KEY,  
    origin VARCHAR NOT NULL,  
    destination VARCHAR NOT NULL,  
    duration INTEGER NOT NULL  
);
```

---

```
db.create_all()
```

```
INSERT INTO flights  
  (origin, destination, duration)  
VALUES ('New York', 'Paris', 540)
```

---

```
flight = Flight(origin="New York",  
                 destination="Paris",  
                 duration=540)  
db.session.add(flight)
```

```
SELECT * FROM flights;
```

---

```
Flight.query.all()
```

```
SELECT * FROM flights  
WHERE origin = 'Paris';
```

---

```
Flight.query.filter_by(origin="Paris").all()
```

```
SELECT * FROM flights  
WHERE origin = 'Paris' LIMIT 1;
```

---

```
Flight.query.filter_by(origin="Paris").first()
```



```
SELECT COUNT(*) FROM flights  
WHERE origin = 'Paris';
```

---

```
Flight.query.filter_by(origin="Paris").count()
```

```
SELECT * FROM flights WHERE id = 28;
```

---

```
Flight.query.filter_by(id=28).first()
```

```
Flight.query.get(28)
```

```
UPDATE flights SET duration = 280  
WHERE id = 6;
```

---

```
flight = Flight.query.get(6)  
flight.duration = 280
```

```
DELETE FROM flights WHERE id = 28;
```

---

```
flight = Flight.query.get(28)  
db.session.delete(flight)
```

COMMIT;

---

`db.session.commit()`

```
SELECT * FROM flights  
ORDER BY origin;
```

---

```
Flight.query.order_by(Flight.origin).all()
```

```
SELECT * FROM flights  
ORDER BY origin DESC;
```

---

```
Flight.query.order_by(Flight.origin.desc()).all()
```

```
SELECT * FROM flights  
WHERE origin != "Paris"
```

---

```
Flight.query.filter(  
    Flight.origin != "Paris").all()
```



```
SELECT * FROM flights  
WHERE origin LIKE "%a%"
```

---

```
Flight.query.filter(  
    Flight.origin.like("%a%")).all()
```

```
SELECT * FROM flights  
WHERE origin IN ('Tokyo', 'Paris');
```

```
Flight.query.filter(  
    Flight.origin.in_  
        ["Tokyo", "Paris"])).all()
```

```
SELECT * FROM flights  
  WHERE origin = "Paris"  
  AND duration > 500;
```

---

```
Flight.query.filter(  
  and_(Flight.origin == "Paris",  
        Flight.duration > 500)).all()
```

```
SELECT * FROM flights  
  WHERE origin = "Paris"  
  OR duration > 500;
```

---

```
Flight.query.filter(  
  or_(Flight.origin == "Paris",  
      Flight.duration > 500)).all()
```

```
SELECT * FROM flights JOIN passengers  
    ON flights.id = passengers.fought_id;
```

---

```
db.session.query(Flight, Passenger).filter(  
    Flight.id == Passenger.flight_id).all()
```