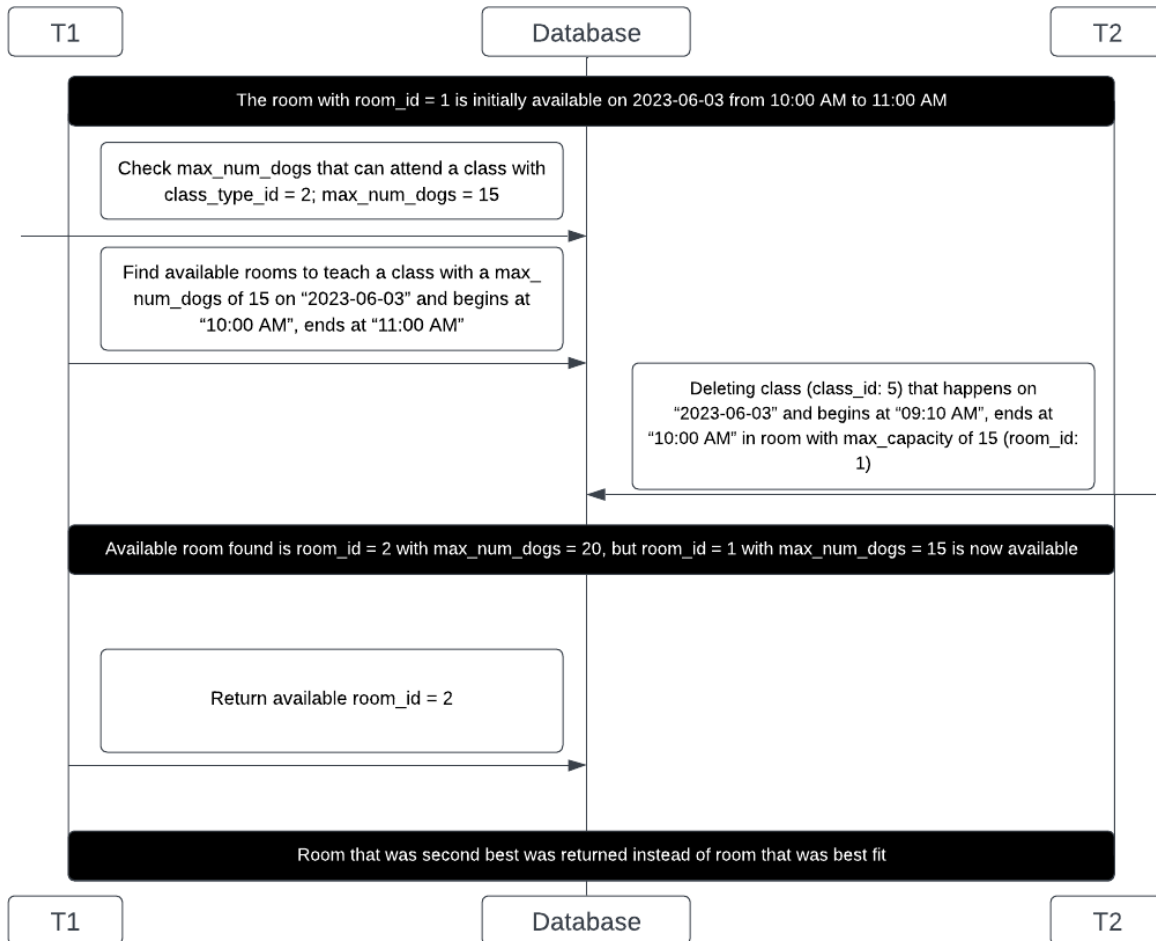
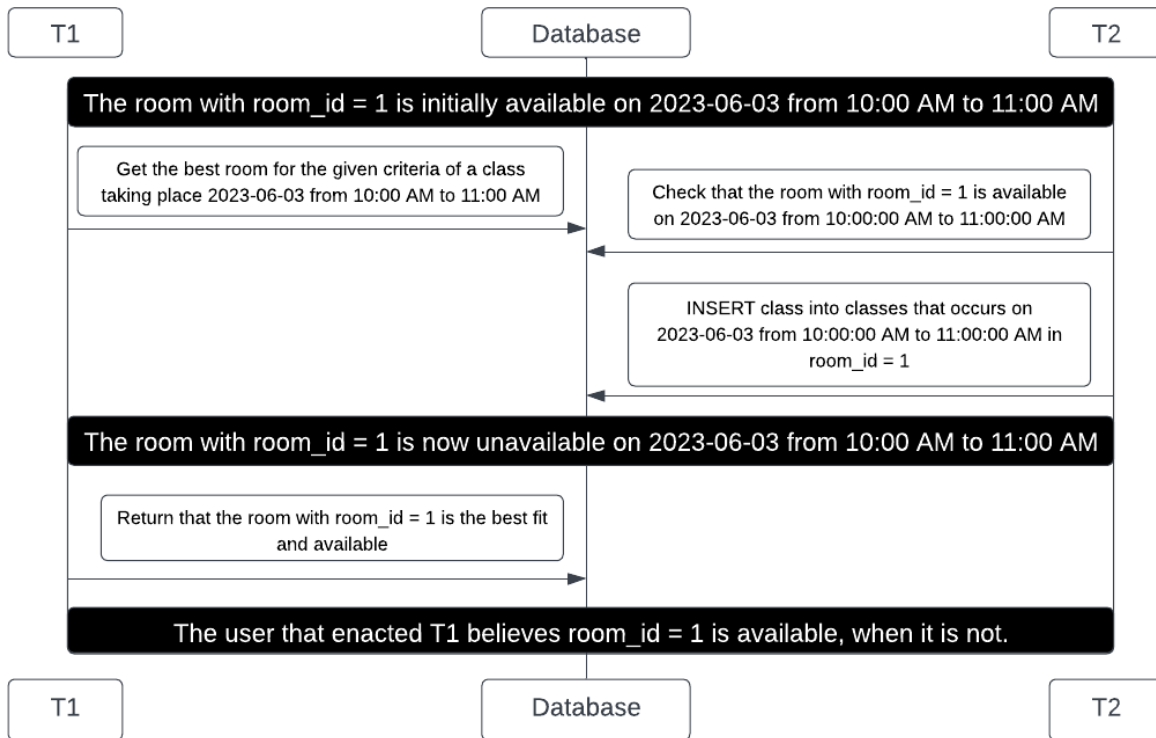


Isolation Levels

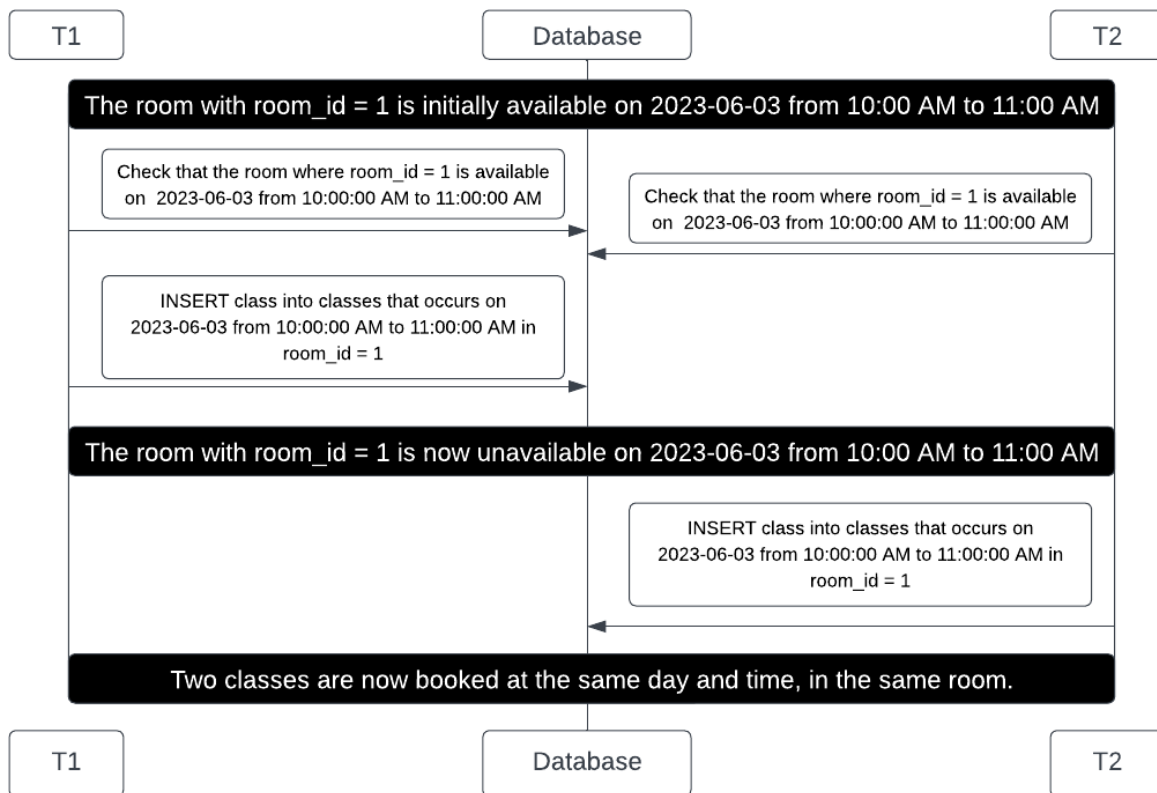
Transaction 1: Delete class while getting an available room (phantom read)



Transaction 2: Adding a class while getting available rooms, and the room given became unavailable because the added class took it (phantom read)



Translation 3: Adding 2 classes at the same time into the same room (phantom read)



Solution: All of our transactions listed above are a phantom read, the only isolation that can help us prevent the phantom read phenomenon would be a serializable isolation level. We added this to our code:

```
with db.engine.connect().execution_options(isolation_level="SERIALIZABLE") as conn:  
    with conn.begin():
```