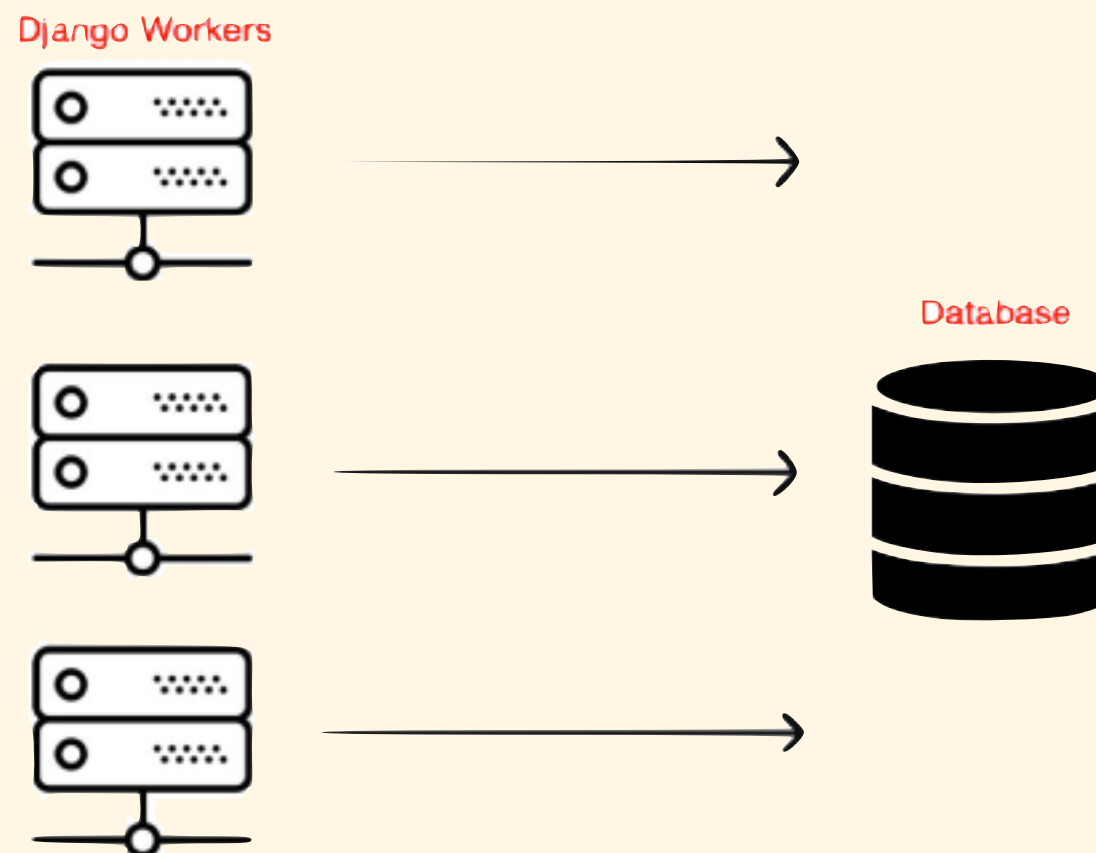


# What is a distributed system?

Every Django app.

- > Each Django request handler is a separate thread
- > What happens when two threads try to do something critical at the same time? e.g. update a user's balance



# Other threads writing will break the bank

Failure if two threads execute withdrawals at once:



```
if (user.balance == 100) {  
    user.balance -= 100 # 2nd thread can .save() a 100 withdrawal befo  
    user.save()         # balance is now 0 but should be -100  
}
```

aka "Time of check to time of use"-bug (TOCTTOU).

