

# Data Access Layer Optimisations

# Agenda

SQL 101

ORM 101

Lazy load and N+1 problem

Eager loading – even more problems

Where to draw the line?

What is persistence layer?

# SQL 101

# ORM 101

# ORM – Object-Relational Mapping

- Classes for table representations
- Querying data by calling object methods
- Abstracts SQL and hides implementation details
- ... or does it?

# ORM - downsides

- Leaky abstraction
- Simple at the beginning, but very complex when performance starts to matter
- Can't completely forget about SQL

# Remember

Python  
Graphs

!=

SQL  
Tuples

# Pay attention to data types

They have bigger impact on performance than one might think



# Persistence layer

- It's not only databases
- REST api as persistence layer
- ...and of course it has its own problems

# Conclusion

- Measure everything
- There is no „universal right way” - everything depends on the scenario
- data != objects

Thanks!





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