Introduction to Object-relation mapping

Fundamental Database Systems 2017

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Let's talk about definition

- **Object-oriented** approach that let you manipulate data in database by **mapping** it's **relations** and attributes.

- Each table will represented as **Model**.

Pros and cons

- No need to repeat same SQL script.
- Data type abstraction.
- Model relationships.
- Fatigue response.
- Setup overhead.

CMU Marathon 2017

User

Web

Application (API)

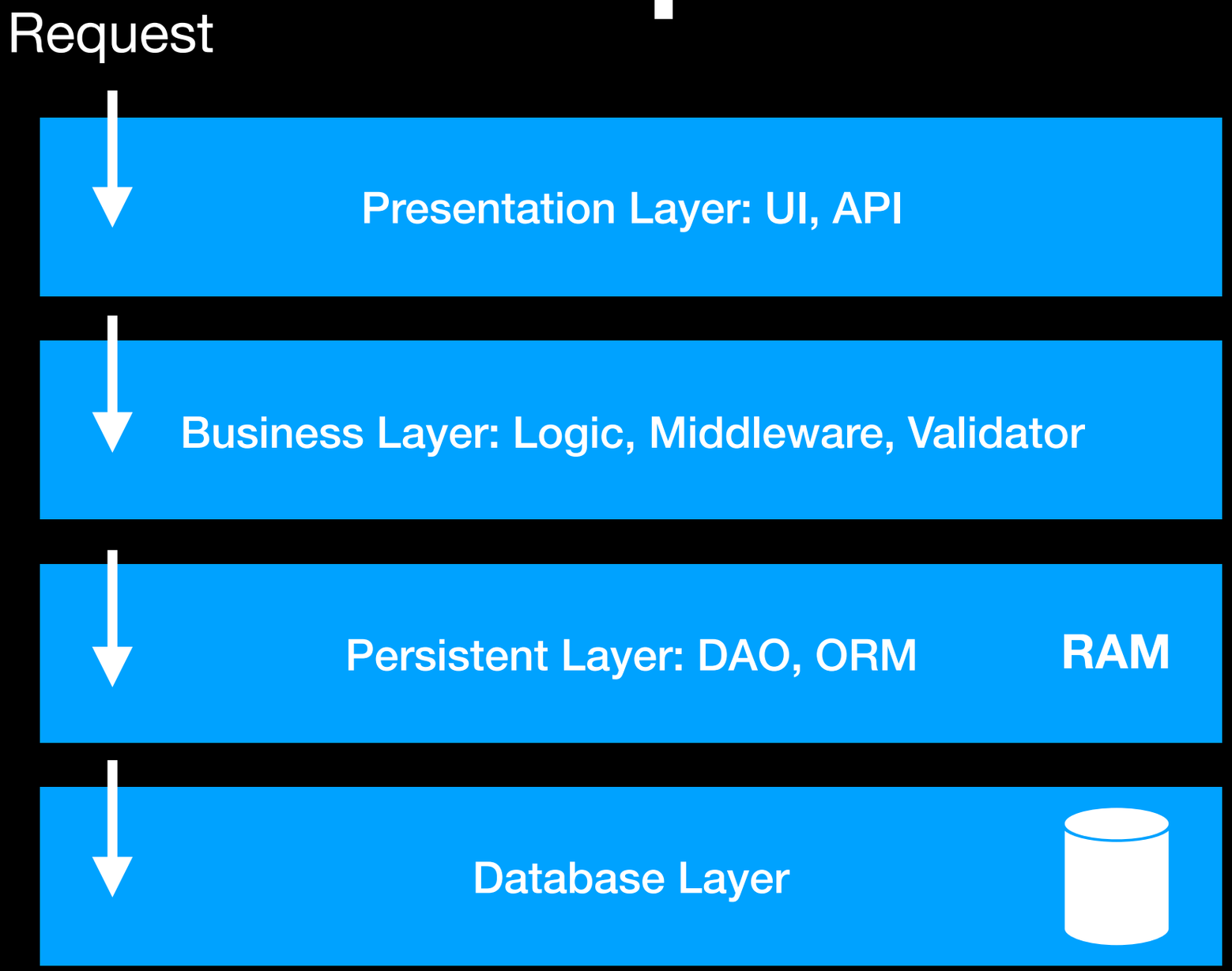
ORM

DB

Payment API

3-tiers architecture

Enterprise

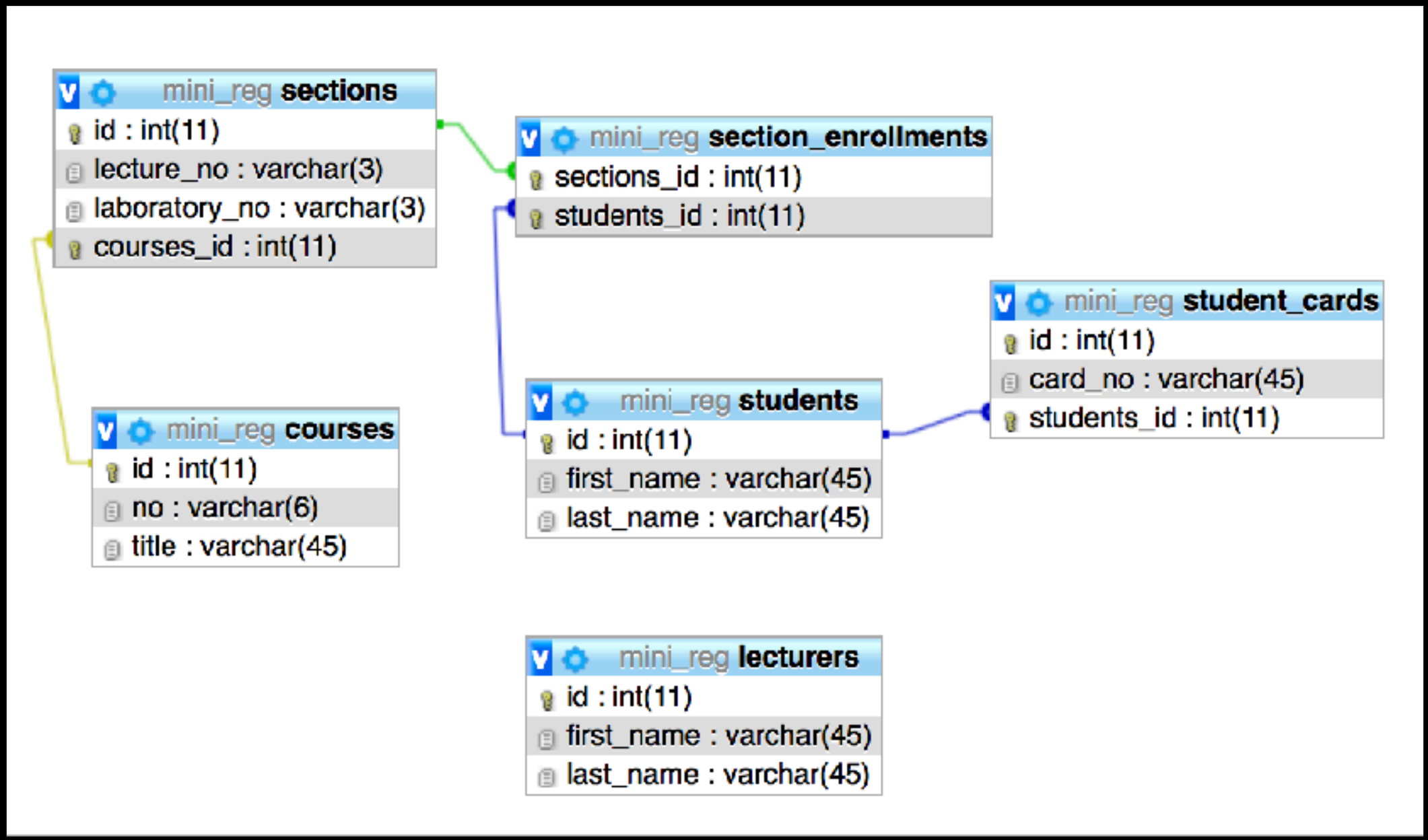


DAO: Data Access Object

E.g. Java EE

https://www.oreilly.com/ideas/software-architecture-patterns/page/2/layered-architecture

Mini REG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laboratory_no : varchar(3)
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sections_id : int(11)
students_id : int(11)
mini_reg student_cards
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card_no : varchar(45)
students_id : int(11)
mini_reg courses
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id : int(11)
first_name : varchar(45)
last_name : varchar(45)
mini_reg lecturers
id : int(11)
first_name : varchar(45)
last_name : varchar(45)

References

- Eloquent: Getting Started https://laravel.com/docs/5.5/eloquent
- Software architecture patterns https://www.oreilly.com/ideas/software-architecture-patterns/page/2/layered-architecture