

Object-Relational Mapping

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Agenda

Objects vs. Relational

Mapping

Application Programming Interface

Query

5 Questions

Q & A



Objects vs. Relational

- Classes
- Fields
- Methods
- References
- Multi-valued types
- Tables
- Columns
- Stored Procedures
- Foreign Keys
- Single-valued types



Mapping

- Class <--> Table
- Property <--> Column
- Identity <--> Primary Key
- Bidirectional-Relationship <--> Foreign Key
- Inheritance <--> Foreign Key == Primary Key
- HashMap <--> Join Table with 3 columns
- Embedded <--> Multiple Columns
- Class <--> Multiple Tables with same Primary Key



API

- EntityManagerFactory
 - aka PersistenceManagerFactory, SessionFactory
- EntityManager
 - aka PersistenceManager, Session
- Transaction
- Query
- Query Result



EntityManager

- Primary User API
- Persistent instance life-cycle
 - persist
 - remove
- Retrieve by Id
- Query factory
- Transaction



EntityManagerFactory

- Factory for EntityManager
- Configuration
 - Connection Properties
- Factory for EntityManager
- Connection Pooling
- Datastore Metadata
- Object Model Metadata
- Mapping Metadata



Query

- Domain Object Model Query
 - Uses Domain Object Model fields
 - Maps 1-1 to SQL
 - Supports Comparison Operators
 - Supports Navigation (Foreign Key Joins)
 - Returns Lists of Domain Objects
- Native (e.g. SQL) Query
 - Mapping of ResultSet to Result Objects



Query

- select e from Employee e
where name = 'Sam'
- select e from Employee e join projects p
where salary > 1000 and p.name = 'r6.0'
- select avg(salary) from Employee e
- select name, address into NameAddress
from Employee e where salary > 1000



5 Questions

- What language is your application?
- Is SQL your native language?
- How complex is your domain object model?
- How complex are your queries?
- Do you need to use stored procedures?



Questions?

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