



CS544 EA

Hibernate

Inheritance: Table Per Concrete Class

Table per Concrete

- Creates a **table for each** concrete class.
 - (each **class that is not abstract**)
 - Subclass tables include all superclass properties
 - Polymorphic queries use UNION operator

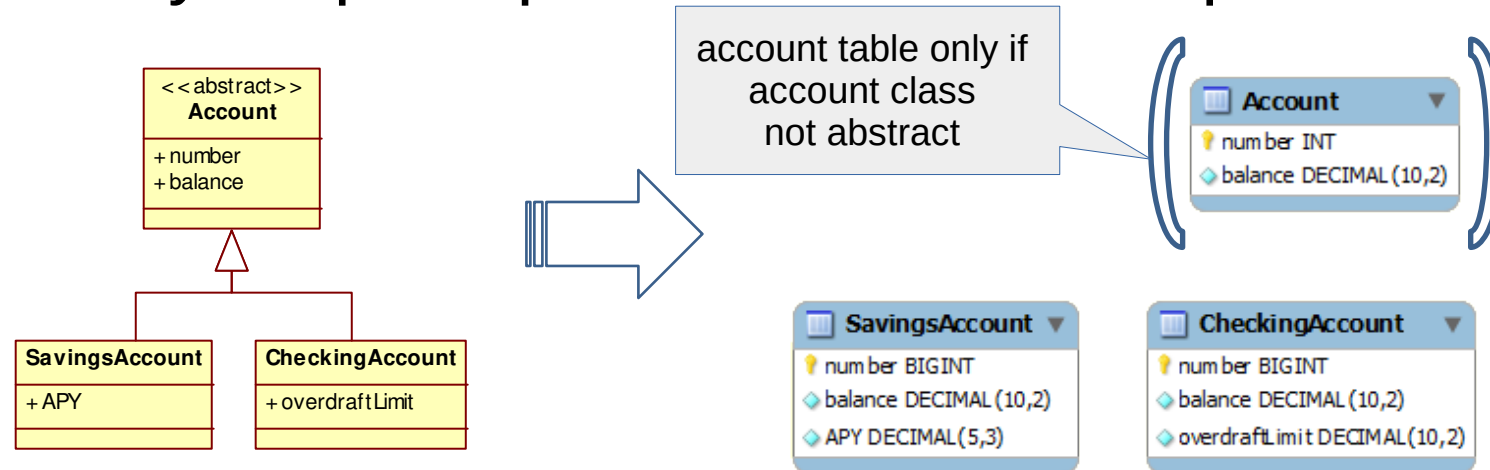


Table per Concrete in Action

SavingsAccount

NUMBER	BALANCE	APY
2	100	2.3

CheckingAccount

NUMBER	BALANCE	OVERDRAFTLIMIT
1	500	200
3	23.5	0

- ✓ Very efficient non-polymorphic
- ✓ Okay with polymorphic queries
- ✗ Cannot use identity column generation
- ✗ JPA does not require it. Some poly issues.

SQL for Table per Concrete

```
select
  account0_.number as number0_,
  account0_.balance as balance0_,
  account0_.owner_id as owner3_0_,
  account0_.overdraftLimit as overdraft1_1_,
  account0_.APY as APY2_,
  account0_.clazz_ as clazz_
from
  ( select
      number,
      balance,
      owner_id,
      overdraftLimit,
      cast(null as int) as APY,
      1 as clazz_
    from
      CheckingAccount
    union
    all select
      number,
      balance,
      owner_id,
      cast(null as int) as overdraftLimit,
      APY,
      2 as clazz_
    from
      SavingsAccount
  ) account0_
```

Discriminator column generated
based on which table
is currently in UNION

Table per Concrete Mapping

- No identity column, no primitives in subclasses

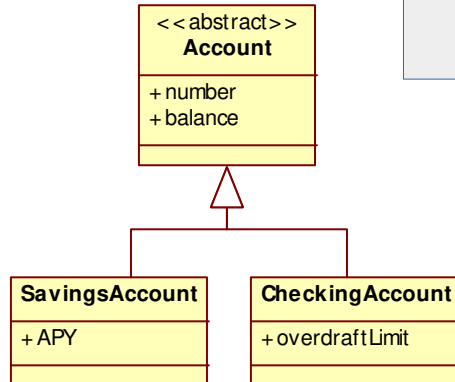
Table per class strategy

```
@Entity
@Inheritance(strategy=InheritanceType.TABLE_PER_CLASS)
public abstract class Account {
    @Id
    @GeneratedValue(strategy=GenerationType.TABLE)
    private Long number;
    private double balance;
```

```
@Entity
public class SavingsAccount extends Account {
    private Double APY;
```

```
@Entity
public class CheckingAccount extends Account {
    private Double overdraftLimit;
```

Table ID strategy
(for on MySQL)



Remember: subclasses do not have an @Id

SavingsAccount	
number	BIGINT
balance	DECIMAL (10,2)
APY	DECIMAL (5,3)

CheckingAccount	
number	BIGINT
balance	DECIMAL (10,2)
overdraftLimit	DECIMAL (10,2)