Berner
Fachhochschule

CAS Java Microservice Development

Java Persistence API - Inheritance

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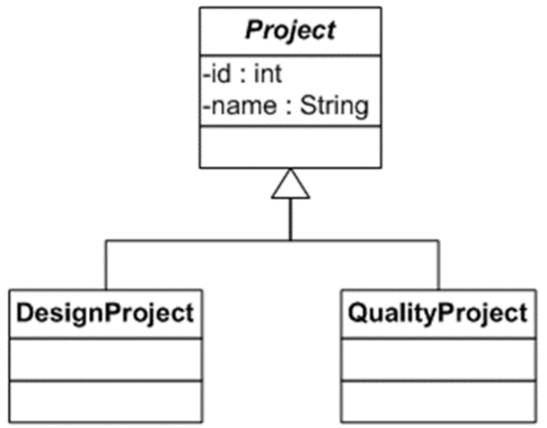
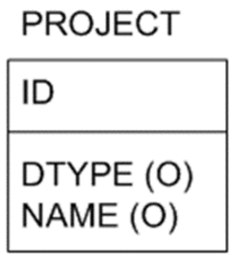
Inheritance

- Inheritance hierarchies can be mapped
- Classes can also be abstract
- All classes in the inheritance hierarchy must inherit the primary key of the base class
- There are four mapping strategies
    - A single table for the entire inheritance hierarchy
    - A table for each non abstract class
    - A table for each class
    - Mapped superclass

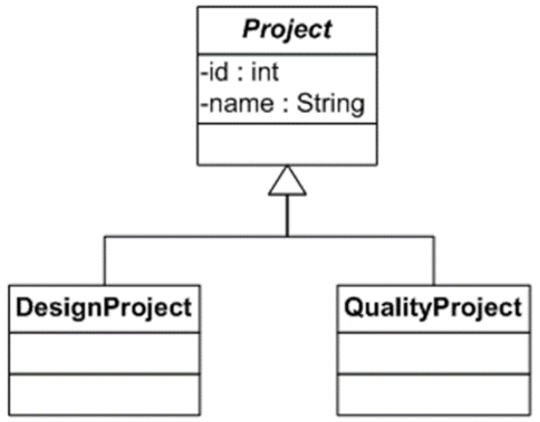
SINGLE_TABLE (Default)

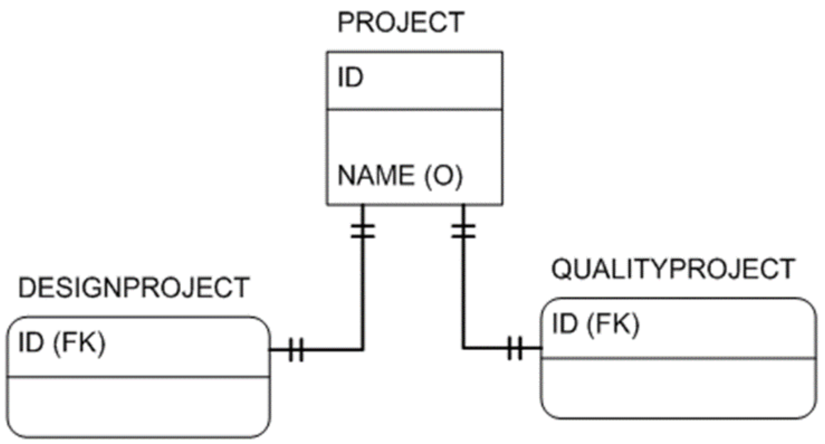




```
@Entity @Inheritance
public abstract class Project

@Entity
public class DesignProject extends Project

@Entity
public class QualityProject extends Project
```

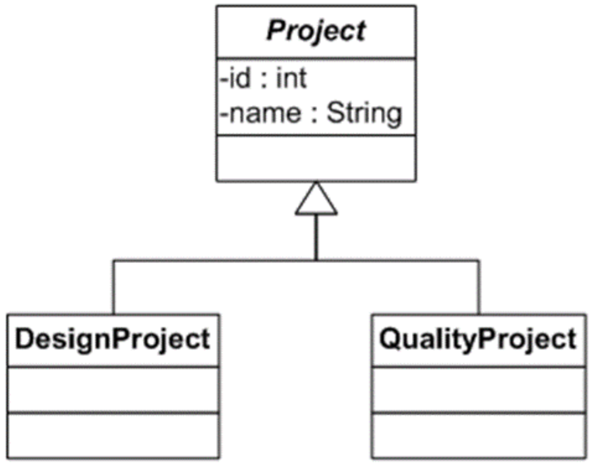
JOINED

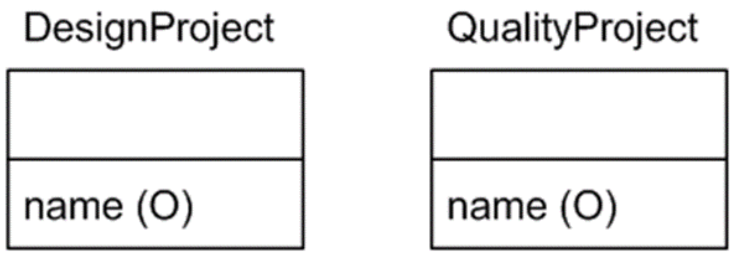




```
@Entity @Inheritance(strategy = InheritanceType.JOINED)
public abstract class Project

@Entity
public class DesignProject extends Project

@Entity
public class QualityProject extends Project
```

TABLE_PER_CLASS (Optional)

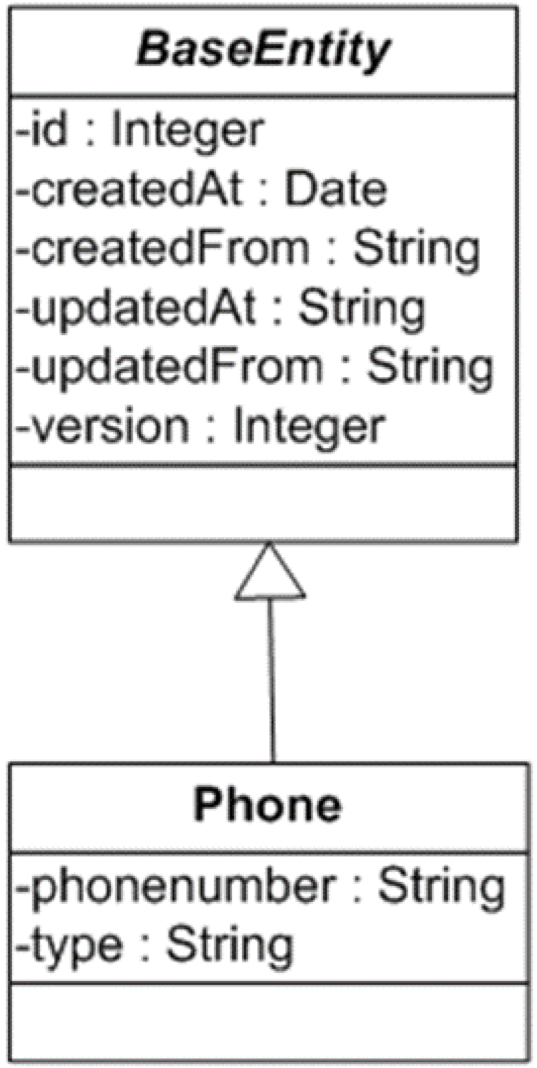




```java
@Entity @Inheritance(strategy = InheritanceType.TABLE_PER_CLASS)
public abstract class Project

@Entity
public class DesignProject extends Project

@Entity
public class QualityProject extends Project
```

MappedSuperclass

```
@MappedSuperclass
public abstract class BaseEntity {

  @Id
  @GeneratedValue
  protected Integer id;
  protected Integer version;
  protected LocalDateTime createdAt;
  protected String createdBy;
  protected LocalDateTime updatedAt;
  protected String updatedBy;
}

@Entity
public class Phone extends BaseEntity {
}
```



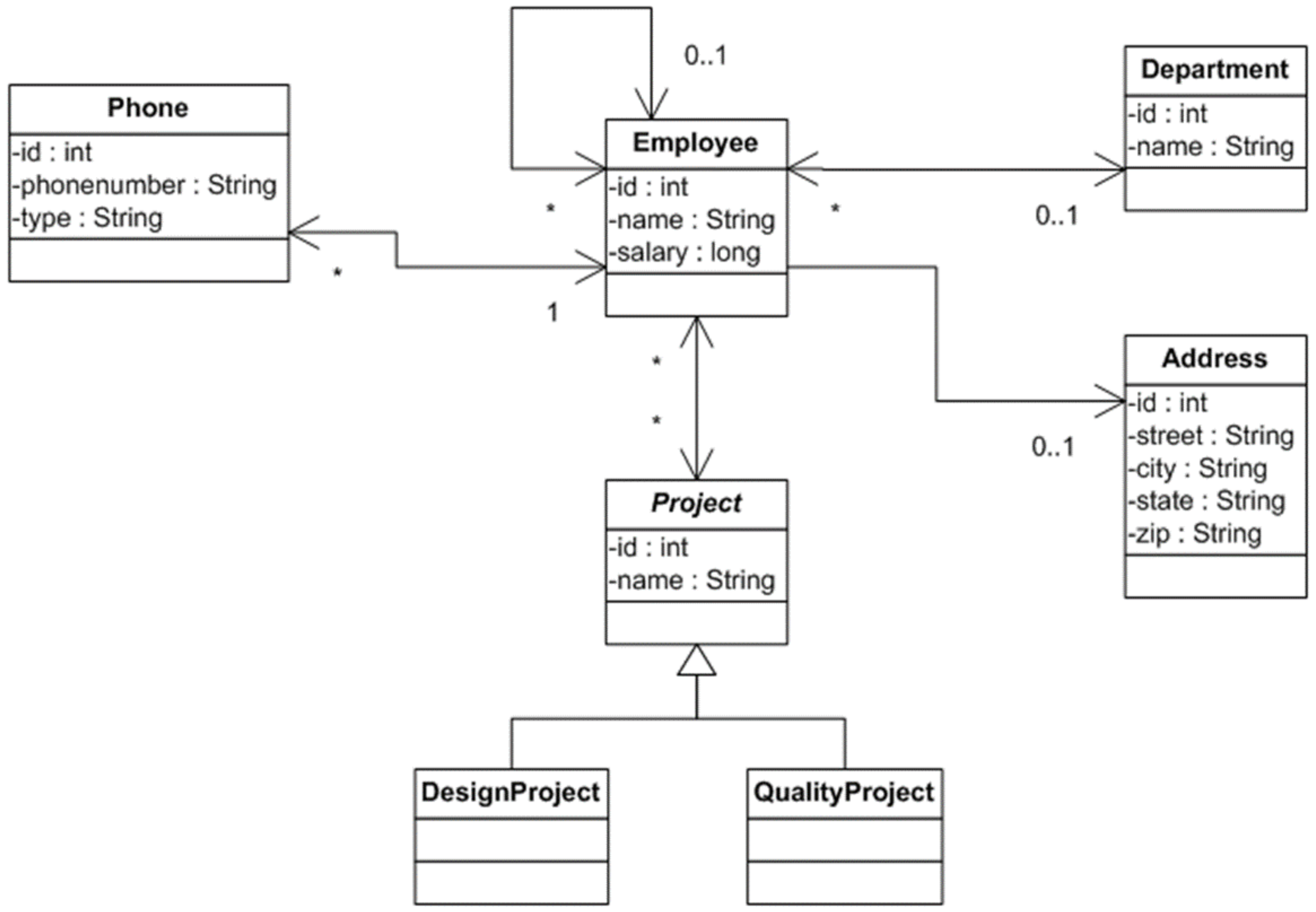
Exercise: Advanced ORM

1. Try out the different inheritance mappings in the project.

   Hint: Delete the generated tables when changing

2. Create a BaseEntity class for all entities and use `@MappedSuperclass` for these

Exercise: Class Model


Phone
-id : int
-phonenumber : String
-type : String
Employee
-id : int
-name : String
-salary : long
Department
-id : int
-name : String
Address
-id : int
-street : String
-city : String
-state : String
-zip : String
Project
-id : int
-name : String
DesignProject
QualityProject
0..1
*
*
0..1
*
1
*
*
0..1