

Leak from Java Heap

"When work, commitment, and pleasure all become one and you reach that deep well where passion lives, nothing is impossible." --Nancy Coey

Monday, January 21, 2013

Basic JPA mappings

Sometimes, when I have to add a couple of mappings to the data model I have to spend a while to recall the correlation between JPA annotations and underlying database schema. I decided to create some kind of a cheat sheet with basic JPA mappings.

- One-to-one unidirectional

PK		FK
HUMAN_ID	HUMAN_NAME	ANIMAL_ID

unique

```
@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @OneToOne
    @JoinColumn(name = "animal_id")
    private Animal animal;
}
```

PK	
ANIMAL_ID	ANIMAL_NAME

```
@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;
}
```

- One-to-one bidirectional (I)

PK		FK
HUMAN_ID	HUMAN_NAME	ANIMAL_ID

unique

```
@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @OneToOne
    @JoinColumn(name = "animal_id")
    private Animal animal;
}
```

PK	
ANIMAL_ID	ANIMAL_NAME

```
@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;

    @OneToOne(mappedBy = "animal")
    private Human human;
}
```

- One-to-one bidirectional (II)

PK	
HUMAN_ID	HUMAN_NAME

```

@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @OneToOne(mappedBy = "human")
    private Animal animal;
}

```

PK		FK
ANIMAL_ID	ANIMAL_NAME	HUMAN_ID

```

@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;

    @OneToOne
    @JoinColumn(name = "human_id")
    private Human human;
}

```

- Many-to-one

PK	FK	
HUMAN_ID	HUMAN_NAME	ANIMAL_ID

```

@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @ManyToOne
    @JoinColumn(name = "animal_id")
    private Animal animal;
}

```

PK
ANIMAL_ID

```

@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;
}

```

- One-to-many unidirectional

PK
HUMAN_ID

```

@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @OneToMany
    @JoinTable(name = "human_animal",
        joinColumns = @JoinColumn(name = "human_id"),
        inverseJoinColumns = @JoinColumn(name = "animal_id"))
    private Set<Animal> animals;
}

```

PK	PK
HUMAN_ID	ANIMAL_ID

FK FK
 unique

PK
ANIMAL_ID

```

@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;
}

```

- One-to-many bidirectional

PK	
HUMAN_ID	HUMAN_NAME

```

@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @OneToMany(mappedBy = "human")
    private Set<Animal> animals;
}

```

PK	FK	
ANIMAL_ID	ANIMAL_NAME	HUMAN_ID

```

@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;

    @ManyToOne
    @JoinColumn(name = "human_id")
    private Human human;
}

```

- Many-to-many

PK	
HUMAN_ID	HUMAN_NAME

```

@Entity
@Table(name = "human")
public class Human {
    @Id
    @GeneratedValue
    @Column(name = "human_id")
    private long id;

    @Column(name = "human_name")
    private String name;

    @ManyToMany
    @JoinTable(name = "human_animal",
        joinColumns = @JoinColumn(name = "human_id"),
        inverseJoinColumns = @JoinColumn(name = "animal_id"))
    private Set<Animal> animals;
}

```

PK	PK
HUMAN_ID	ANIMAL_ID

FK FK

PK	
ANIMAL_ID	ANIMAL_NAME

```

@Entity
@Table(name = "animal")
public class Animal {
    @Id
    @GeneratedValue
    @Column(name = "animal_id")
    private long id;

    @Column(name = "animal_name")
    private String name;

    @ManyToMany(mappedBy = "animals")
    private Set<Human> humans;
}

```

