

JPA

Herencia

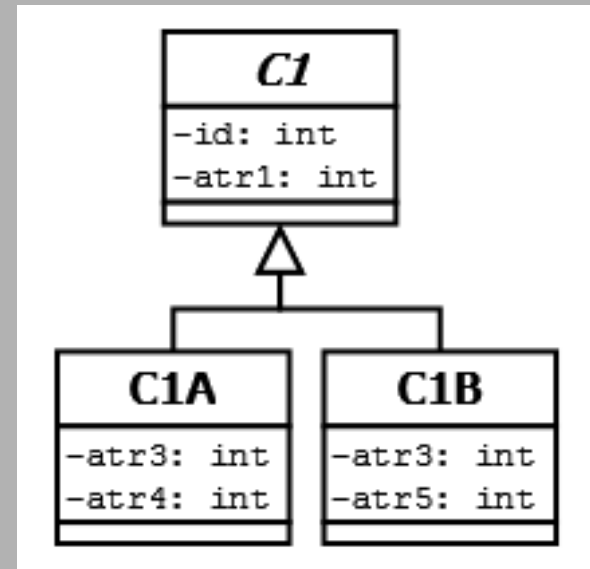
- ◎ Anotación: `@Inheritance (strategy=?)`. Se sitúa en la superclase
 - InheritanceType.**SINGLE_TABLE**. Se guarda en una sola tabla todas las entidades concretas
 - Es el más rápido, ya que con un solo acceso se recupera la instancia completa
 - El inconveniente que se pueden crear tablas muy grandes con muchos campos a *null*
 - InheritanceType.**JOINED**. Se crea una tabla por clase
 - Tablas normalizadas con mínimo datos falsos o redundantes. Al añadir clases, se añaden tablas, respetando las existentes
 - Como inconveniente, es un sistema más lento ya que se deben realizar varios accesos para leer o actualizar los datos. Si la mayoría de los accesos son a las superclases, es bastante rápido
 - InheritanceType.**TABLED_PER_CLASS**. se crea una tabla por clase no abstracta y se guardan todos los atributos de la instancia (redundancia)
 - Es incompatible con `@GeneratedValue`
 - Problemas con el polimorfismo

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Herencia. Ejemplo

```
@Entity
@Inheritance(strategy=InheritanceType.???)
public abstract class C1{
    @Id @GeneratedValue //Incompatible con TABLED_PER_CLASS
    private int id, atr1;
    ...
}
@Entity
public class C1A extends C1{
    private int atr3, atr4;
    ...
}
@Entity
public class C1B extends C1{
    private int atr3, atr5;
    ...
}

//Ejemplo
new C1A(1,1,1,1); //id,atr1,atr3,atr4
new C1A(2,2,2,2); //id,atr1,atr3,atr4
new C1B(3,3,3,3); //id,atr1,atr3,atr5
new C1B(4,4,4,4); //id,atr1,atr3,atr5
```



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Herencia. SINGLE_TABLE

```
MySQL - mysql -u root -p
mysql> describe c1;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| DTYPE | varchar(31)   | NO   |     | NULL    |                |
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |
| atr1  | int(11)       | NO   |     | NULL    |                |
| atr3  | int(11)       | YES  |     | NULL    |                |
| atr4  | int(11)       | YES  |     | NULL    |                |
| atr5  | int(11)       | YES  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> select * from c1;
+-----+-----+-----+-----+-----+-----+
| DTYPE | id | atr1 | atr3 | atr4 | atr5 |
+-----+-----+-----+-----+-----+-----+
| C1A   | 1 | 1    | 1    | 1    | NULL |
| C1A   | 2 | 2    | 2    | 2    | NULL |
| C1B   | 3 | 3    | 3    | NULL | 3    |
| C1B   | 4 | 4    | 4    | NULL | 4    |
+-----+-----+-----+-----+-----+-----+
```

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Herencia. JOINED

```
MySQL - mysql -u root -p
mysql> describe c2;
+----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra          |
+----+-----+-----+-----+-----+-----+
| id    | int(11)   | NO   | PRI | NULL    | auto_increment |
| atr1  | int(11)   | NO   |     | NULL    |                |
+----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> select * from c2;
+----+-----+
| id | atr1 |
+----+-----+
| 1  | 1    |
| 2  | 2    |
| 3  | 3    |
| 4  | 4    |
+----+-----+
4 rows in set (0.00 sec)

mysql> describe c2a;
+----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra          |
+----+-----+-----+-----+-----+-----+
| atr3  | int(11)   | NO   |     | NULL    |                |
| atr4  | int(11)   | NO   |     | NULL    |                |
| id    | int(11)   | NO   | PRI | NULL    |                |
+----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> select * from c2a;
+----+-----+-----+
| atr3 | atr4 | id |
+----+-----+-----+
| 1    | 1    | 1  |
| 2    | 2    | 2  |
+----+-----+-----+
2 rows in set (0.00 sec)

mysql> describe c2b;
+----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra          |
+----+-----+-----+-----+-----+-----+
| atr3  | int(11)   | NO   |     | NULL    |                |
| atr5  | int(11)   | NO   |     | NULL    |                |
| id    | int(11)   | NO   | PRI | NULL    |                |
+----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> select * from c2b;
+----+-----+-----+
| atr3 | atr5 | id |
+----+-----+-----+
| 3    | 3    | 3  |
| 4    | 4    | 4  |
+----+-----+-----+
```

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Herencia. TABLED_PER_CLASS

```
MySQL - mysql -u root -p
mysql> describe c3a;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int(11)   | NO   | PRI | NULL    |       |
| atr1  | int(11)   | NO   |     | NULL    |       |
| atr3  | int(11)   | NO   |     | NULL    |       |
| atr4  | int(11)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> select * from c3a;
+-----+-----+-----+-----+
| id | atr1 | atr3 | atr4 |
+-----+-----+-----+-----+
| 1  | 1    | 1    | 1    |
| 2  | 2    | 2    | 2    |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> describe c3b;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int(11)   | NO   | PRI | NULL    |       |
| atr1  | int(11)   | NO   |     | NULL    |       |
| atr3  | int(11)   | NO   |     | NULL    |       |
| atr5  | int(11)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> select * from c3b;
+-----+-----+-----+-----+
| id | atr1 | atr3 | atr5 |
+-----+-----+-----+-----+
| 3  | 3    | 3    | 3    |
| 4  | 4    | 4    | 4    |
+-----+-----+-----+-----+
```