

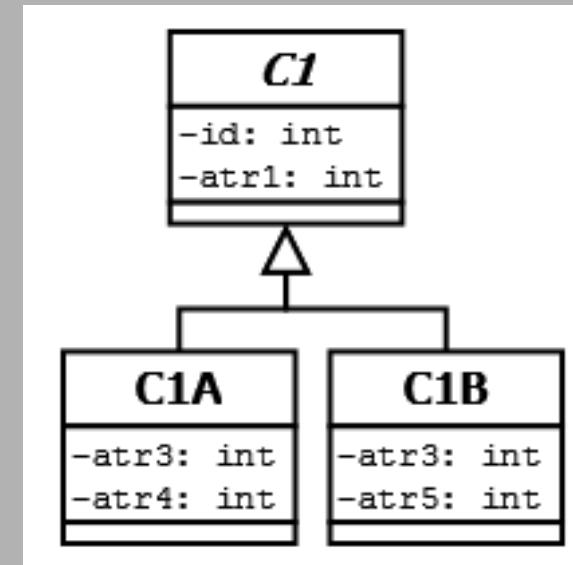
Herencia

- 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

JPA

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
```



JPA

Herencia. SINGLE_TABLE

```
c:\ MySQL - mysql -u root -p
mysql> describe c1;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| DTTYPE| 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;
+-----+-----+-----+-----+-----+-----+
| DTTYPE| 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    |
+-----+-----+-----+-----+-----+-----+
```

JPA

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   |
+-----+-----+
```

JPA

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    |
+-----+-----+-----+-----+
```