

# Database Project, Part 3

Grupo 13 - Turno de 4ª feira às 16h30

Docente do turno de laboratório: Prof. Paulo Carreira

Elementos do grupo:

Afonso Dias – nº93571 – 25h – 33%

David Correia – nº93576 – 25h – 33%

João Pargana – nº93592 – 25h – 33%

Link para a webapp: <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>

No Populate.sql existem comentários no fim do ficheiro que contêm cada um, um comando insert que irá ativar cada um dos triggers definidos.

sql files have to be loaded in order: schema.sql => view.sql => RI.sql => populate.sql

## Explanation of the architecture of the web application

- a) Insert and remove categories and sub-categories;
- b) Insert and remove a new product and its respective suppliers (primary or secondary), ensuring that this operation is atomic;
- c) List replenishment events for a given product, including the number of replenished units;
- d) Change the designation of a product;
- e) List all the sub-categories of a super-category, at all levels of depth.

### a)

#### **Insert category:**

- Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>
- Click on the 'Insert and remove categories and sub-categories' hyperlink
- Click on the 'Add a new category' hyperlink
- Fill out the form and press 'Submit'

#### **Insert sub-category:**

- Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>
- Click on the 'Insert and remove categories and sub-categories' hyperlink
- Click on the 'Add a new sub category' hyperlink
- Fill out the form and press 'Submit'

#### **Remove a category:**

- Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>
- Click on the 'Insert and remove categories and sub-categories' hyperlink
- Click on the 'remove' hyperlink on the row of the category you want to remove

### b)

#### **Insert product and suppliers:**

- Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>
- Click on the 'Insert and remove a new product and its respective suppliers (primary or secondary)' hyperlink
- Click on the 'Add a new product hyperlink
- Fill out the form and press 'Submit'

#### **Remove a product and its suppliers:**

- Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>
- Click on the 'Insert and remove a new product and its respective suppliers (primary or secondary)' hyperlink
- Click on the 'remove' hyperlink on the row of the product you want to remove

c)

**List replenishment events for a given product:**

Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>

Click on the 'List replenishment events for a given product, including the number of replenished units' hyperlink

Click on the 'List replenishment events' hyperlink on the row of the product you want to see the replenishment events of

d)

**Change the designation of a product:**

Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>

Click on the 'Change the designation of a product' hyperlink

Click on the 'Change designation' hyperlink on the row of the product you want to change the designation of

Fill out the form and press 'Submit'

d)

**Change the designation of a product:**

Begin from <http://web2.tecnico.ulisboa.pt/ist193592/BDhub.cgi>

Click on the 'List all the sub-categories of a super-category, at all levels of depth' hyperlink

Click on the 'Show all subcategories' hyperlink on the row of the category you want to view the subcategories of

# Índices

## 5.1 List the NIF and NAME of every primary supplier of products of the category 'Vegetables'.

```
SELECT DISTINCT S.nif, S.name
FROM prim_supplier S INNER JOIN product P
  ON S.ean = P.ean
WHERE P.category = 'Vegetables'
```

Tipo de índice: **Hash** sobre atributo **category** sobre tabela **product**

Razão: Escolhemos este tipo de índice porque é melhor para 'equality tests'. Aqui a comparação é feita ao atributo **category** e portanto será esse o atributo a que iremos ter em conta quando criarmos o índice. A tabela **product** será considerada porque é aí que está contido o atributo **category**.

```
CREATE INDEX category_index ON product USING
HASH(category);
```

---

## 5.2 List the number of secondary suppliers of products with more than one (secondary supplier)

```
SELECT ean, COUNT(*)  
FROM product P, secondary_supplier S  
WHERE P.ean = S.ean  
GROUP BY P.ean  
HAVING COUNT(*) > 1
```

Tipo de índice: **B+Tree** sobre o atributo **ean** na tabela **secondary\_supplier**

Razão: Escolhemos este tipo de índice porque ajuda na operação 'group by'. O group by é feito ao atributo **ean** e portanto criaremos o índice baseado nesse atributo. A tabela **secondary\_supplier** será considerada porque é aí que está contido o atributo **category**

```
CREATE INDEX sec_supp_ean ON secondary_supplier(ean);
```