# C2- S4-PRACTICE

*NOTE: check your **THEORY slides** to answer those questions!*

## EXERCISE 1 – BOOK & AUTHORS

We want to manage books and authors:

- ✓ A book has always 1 author only
- ✓ An author could write many books.

| Author |
|---|
| authorId |
| name |
| dateOfBirth |
| country |

| Book |
|---|
| bookId |
| title |
| publishYear |
| language |

**Q1** – What is the relation between Book and Author tables?

- Complete the missing attributes or table to allow this relation

| Book |
|---|
| Book_id |
| title |
| publishYear |
| language |
| Book_id |

Many — 1

| Author |
|---|
| Author_Id |
| name |
| dataOfBirth |
| country |

**Q2** – For each table, complete the following arrays, by specifying for each attribute:

- The field type (SQL type) and size
- Can be null or not?
- Is a primary key or foreign keys?

**AUTHOR TABLE**

| Attribute name | Type / size | Can be Null? | Key |
|---|---|---|---|
| Author_id | int | yes | PK |
| name | varchar | yes | |
| dateOfBirth | molen | yes | |
| country | varchar | yes | |

**BOOK TABLE**

| Attribute name | Type / size | Can be Null? | Key |
|---|---|---|---|
| Book_id | int | yes | PK |
| title | varchar | yes | |
| publishYear | date | yes | |
| language | varchar | yes | |
| Author_id | | yes | FK |

**Q3** – Write the SQL statement to create the 2 tables with appropriate properties

```
MariaDB [story]> describe author;
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| Author_id    | int(11)     | NO   | PRI | NULL    | auto_increment |
| name         | varchar(200)| YES  |     | NULL    |                |
| date_of_birth| date        | YES  |     | NULL    |                |
| country      | varchar(200)| YES  |     | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
```

```
MariaDB [story]> describe books;
+--------------+--------------+------+-----+---------+----------------+
| Field        | Type         | Null | Key | Default | Extra          |
+--------------+--------------+------+-----+---------+----------------+
| Book_id      | int(11)      | NO   | PRI | NULL    | auto_increment |
| title        | varchar(250) | YES  |     | NULL    |                |
| publish_year | date         | YES  |     | NULL    |                |
| language     | varchar(150) | YES  |     | NULL    |                |
| author_id    | int(11)      | NO   | MUL | NULL    |                |
+--------------+--------------+------+-----+---------+----------------+
```

**Q4–** Write the statement to insert 5 books and 5 authors

- 5 books

```
MariaDB [story]> select * from books;
+---------+-------------------------+--------------+----------+-----------+
| Book_id | title                   | publish_year | language | author_id |
+---------+-------------------------+--------------+----------+-----------+
|       1 | The story of Pka Sropun | 1938-10-01   | Khrme    |         1 |
|       2 | Pailin Rose Story       | 0000-00-00   | Khrme    |         1 |
|       3 | Techo Yot               | 0000-00-00   | Khrme    |         5 |
|       4 | Tumteav story           | 0000-00-00   | Khrme    |         3 |
|       5 | Reamker story           | 0000-00-00   | Khrme    |         2 |
+---------+-------------------------+--------------+----------+-----------+
```

- 5 authors

```
MariaDB [story]> select * from author;
+-----------+-------------+---------------+-----------+
| Author_id | name        | date_of_birth | country   |
+-----------+-------------+---------------+-----------+
|         1 | Nguon Som   | 1928-02-10    | Cambodia  |
|         2 | Rimkin      | 1942-05-30    | Cambodia  |
|         3 | Nou Hach    | 1972-09-30    | Cambodia  |
|         4 | Nhok Them   | 1936-12-26    | Cambodia  |
|         5 | Ti Chi Huot | 1926-12-26    | Cambodia  |
+-----------+-------------+---------------+-----------+
```

  - Find the book and author information on the Internet

**Q5–** Write the SQL statement to **delete 3 of your books** from the database

```
MariaDB [story]> select * from books;
+---------+-------------------------+--------------+----------+-----------+
| Book_id | title                   | publish_year | language | author_id |
+---------+-------------------------+--------------+----------+-----------+
|       1 | The story of Pka Sropun | 1938-10-01   | Khrme    |         1 |
|       2 | Pailin Rose Story       | 0000-00-00   | Khrme    |         1 |
+---------+-------------------------+--------------+----------+-----------+
```

# EXERCISE 2 – USERS & POSTS

We want to manage **users** and **posts** (like posts on Facebook)

- A post is related to **1 user only**
    - A post has a body (the text of the post)
- User can have **many posts**
    - A user has a first name, and a nick name (optional)

| User |
| --- |
| userId |
| firstName |
| nickName |

| Post |
| --- |
| postId |
| body |

**Q1** – What is the relation between User and Post Table?

- Complete the missing attributes or table to allow this relation

| User |
| --- |
| User_id |
| firstName |
| nickName |

1 — many

| Post |
| --- |
| Post_id |
| body |
| User_id |

**Q2** – For each table, complete the following arrays, by specifying for each attribute:

- The attribute type (SQL type) and size
- Can be null or not?
- Is a primary key or foreign keys?

**USER TABLE**

| Attribute name | Type / size | Null? | Key |
|---|---|---|---|
| Userld_id | int | no | PK |
| firstName | varchar | yes | |
| nickName | varchar | yes | |

**POST TABLE**

| Attribute name | Type / size | Null? | Key |
|---|---|---|---|
| Post_id | int | no | PK |
| body | varchar | yes | |
| Userld_id | | no | FK |

**Q3** – Write the SQL statement to create the 2 tables with appropriate properties

```
MariaDB [users]> desc user;
+-----------+--------------+------+-----+---------+----------------+
| Field     | Type         | Null | Key | Default | Extra          |
+-----------+--------------+------+-----+---------+----------------+
| post_id   | int(11)      | NO   | PRI | NULL    | auto_increment |
| fist_name | varchar(200) | YES  |     | NULL    |                |
| nick_name | varchar(200) | YES  |     | ----    |                |
+-----------+--------------+------+-----+---------+----------------+
3 rows in set (0.026 sec)
```

```
MariaDB [users]> desc post;
+---------+--------------+------+-----+---------+----------------+
| Field   | Type         | Null | Key | Default | Extra          |
+---------+--------------+------+-----+---------+----------------+
| post_id | int(11)      | NO   | PRI | NULL    | auto_increment |
| body    | varchar(200) | YES  |     | NULL    |                |
+---------+--------------+------+-----+---------+----------------+
```

**Q4–** Write the statement to insert the following users and posts

Notes:

- ---- means: no value (the nickname is optional!)
- We don't specify the KEY, it's your business!

**USERS**

| First name | Nick name |
|---|---|
| Ronan | roro |
| Sokea | ---- |
| Edouard | doudou |

```
MariaDB [users]> select * from user;
+---------+-----------+-----------+
| post_id | fist_name | nick_name |
+---------+-----------+-----------+
|       1 | Ronan     | ----      |
|       2 | Sokea     | roro      |
|       3 | Edouard   | doudou    |
+---------+-----------+-----------+
```

**POSTS**

| Post body | From |
|---|---|
| Hello all ! | Ronan |
| I like rice | Ronan |
| YES YES | Sokea |

```
MariaDB [users]> select * from posts;
+---------+-------------+---------+
| post_id | body        | user_id |
+---------+-------------+---------+
|       1 | Hello all ! |       1 |
|       2 | L like rice |       1 |
|       3 | YES YES     |       2 |
+---------+-------------+---------+
```

**Q5–** Write the statement to delete the user Edouard

- What's happen? Can we delete it? Why?

```
MariaDB [users]> select * from user;
+---------+-----------+-----------+
| user_id | fist_name | nick_name |
+---------+-----------+-----------+
|       1 | Ronan     | ----      |
|       2 | Sokea     | roro      |
+---------+-----------+-----------+
```

**Q6–** Write the statement to delete the user Ronan

- What's happen? Can we delete it? Why?

- Cannot delete because it is a foreign key we want to delete we can log in to the user .

**Q7–** Write SQL statement to remove the rows related to Ronan user:

- Hello all!
- I like rice

```
MariaDB [users]> select * from posts;
+---------+---------+---------+
| post_id | body    | user_id |
+---------+---------+---------+
|       3 | YES YES |       2 |
+---------+---------+---------+
```

**Q8–** now try again to delete the user Ronan

- What's happen? Can we delete it? What can you conclude?

```
MariaDB [users]> select * from user;
+---------+-----------+-----------+
| user_id | fist_name | nick_name |
+---------+-----------+-----------+
|       2 | Sokea     | roro      |
+---------+-----------+-----------+
1 row in set (0.000 sec)
```

**Q9–** Add a new POST in the POST table with a userId which does not exist in the User table (ex: 45)

- What's happen? Why?
- can not add the new post because it doesn't user_id in the user.