

Homework 7

FROM: Jonas Zhonghan Xie
TO: Raj
SUBJECT: RE: Request from Raj

Hi Raj,

Thank you for reaching out. Hope you are doing well! I have installed the Data Grip on my laptop.

I have also designed the two normalized database schemas for the newspaper website and the library circulation system. The ERD is attached to this email. For the newspaper website, I have designed a schema with 4 tables: **Stories**, **Authors**, **Sections**, and **Comments**.

ro_NewsStories

Stories			
Field	Data type	Values	Notes
id	int	Unique identifier for each story	PK, auto increment
author_id	int	id of the author	FK (Authors.id)
section_id	int	id of the section	FK (Sections.id)
title	varchar	title of the story	
content	text	the content of the story	
status	enum	Current publication status (draft, published, archived)	
published	datetime	time when the story was published	
created	datetime	time when created	
updated	datetime	time when record was updated	

Authors			
Field	Data type	Values	Notes
id	int	Unique identifier for each author	PK, auto increment
first_name	varchar	Author's first name	
last_name	varchar	Author's last name	
email	varchar	Author's email	
created	datetime	Time when created	
updated	datetime	Time when record was updated	

Sections			
Field	Data type	Values	Notes
id	int	Unique identifier for each section	PK, auto increment
section_name	varchar	Name of the section (e.g., News, Sports)	
created	datetime	Time when created	
updated	datetime	Time when record was updated	

Comments			
Field	Data type	Values	Notes
id	int	Unique identifier for each comment	PK
story_id	int	id of the story	FK (Stories.id)
commenter	varchar	name of the commenter	
content	text	text content of comment	
ip_address	varchar	IP address from which the comment was submitted	
created	datetime	time when created	
updated	datetime	time when record was updated	

For the library circulation system, I have designed a schema with 3 tables as you required: **Books**, **Patrons**, and **CirculationRecords**.

ro_BookCirculation

Books			
Field	Data type	Values	Notes
id	int	Unique identifier for each book	PK, auto increment
title	varchar	Title of the book	
isbn	varchar	International identifier for each book	
status	ENUM('Available', 'Circulating', 'Archived')	Status of the book, available for circulating, is circulating, or archived	
created	datetime	Time when the record was created	
updated	datetime	Time when the record was updated	

Patrons			
Field	Data type	Values	Notes
id	int	Unique identifier for each patron	PK, auto increment
first_name	varchar	Patron's first name	
last_name	varchar	Patron's last name	
email	varchar	Patron's email address	
phone	varchar	Patron's phone number	
address	varchar	Patron's mailing address	
status	ENUM('active', 'inactive')	Current status of the patron	
created	datetime	Time when the record was created	
updated	datetime	Time when the record was updated	

CirculationRecords			
Field	Data type	Values	Notes
id	int	Unique identifier for each circulation record	PK, auto increment
book_id	int	id of the book	FK (Books.id)
patron_id	int	id of the patron	FK (Patrons.id)
check_out_time	datetime	Date and time when the book was checked out	
check_in_time	datetime	Date and time when the book was returned	
created	datetime	Time when the record was created	
updated	datetime	Time when the record was updated	

For creating the backup of the **world** database, I first saved the **world** database on my personal laptop using the command:

```
mysqldump -h 34.45.141.24 --port 12373 -u jonasxie-rw -p world --set-gtid-purged=OFF > mars.sql
```

I created the database called **mars** on the server using the command: **CREATE SCHEMA mars;**

Then I uploaded the **mars.sql** to the server using the command:

```
mysql -h 34.45.141.24 --port 12373 -u jonasxie-rw -p mars < mars.sql
```

```
mysql> CREATE SCHEMA mars;
Query OK, 1 row affected (0.06 sec)

mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| bikes    |
| classicmodels |
| information_schema |
| kubedb_system |
| mars     |
| mysql    |
| performance_schema |
| ro_company1 |
| ro_employees |
| ro_query |
| ro_recipes |
| ro_research1 |
| ro_twitter |
| sakila   |
| sys      |
| world    |
+-----+
16 rows in set (0.06 sec)

mysql> exit
Bye
zhonghanxie@Zhonghans-Laptop ~ % mysql -h 34.45.141.24 --port 12373 -u jonasxie-rw -p mars < mars.sql
Enter password: .....

mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| bikes    |
| classicmodels |
| information_schema |
| kubedb_system |
| mars     |
| mysql    |
| performance_schema |
| ro_company1 |
| ro_employees |
| ro_query |
| ro_recipes |
| ro_research1 |
| ro_twitter |
| sakila   |
| sys      |
| world    |
+-----+
16 rows in set (0.05 sec)

mysql> USE mars;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_mars |
+-----+
| city            |
| country         |
| countrylanguage |
+-----+
3 rows in set (0.06 sec)
```

Let me know if you have any additional questions about the ERDs and the backup of database. Thank you!

Best,
Jonas