Relational Databases with MySQL Week 3 Coding Assignment

Screenshots:

Don't Limit

```sql
1      -- Create our Database let the character set defualt
2      CREATE DATABASE IF NOT EXISTS sqlWeek3;
3      use sqlWeek3;
4      select database();
5      show tables;
6      -- Create User table
7      CREATE TABLE IF NOT EXISTS users (
8      user_id INT AUTO_INCREMENT PRIMARY KEY,
9      username VARCHAR(255) NOT NULL,
10     password VARCHAR(255) NOT NULL,
11     email VARCHAR(255) NOT NULL );
12     -- Create Post table
13     -- Posts are being limited to 16K of text. If graphics were desired would change to a BLOB
14     -- Post_data , as Text type,  is being cached outside the in memory DB
15     -- If a user is deleted all their posts are deleted as well
16     CREATE TABLE IF NOT EXISTS posts (
17     post_id INT AUTO_INCREMENT PRIMARY KEY,
18     user_id INT NOT NULL,
19     created_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
20     post_data TEXT,
21     FOREIGN KEY (user_id)
22             REFERENCES USERS (user_id)
23             ON UPDATE CASCADE ON DELETE CASCADE );
24     -- Create Comments table
25     -- Comments are being limite to 16K of text as well (see post table comments)
26     -- If a post is deleted all the comments are deleted as well, a comment may be orphaned by a user
27     -- Application logic resets the comment_id sequence for new posts.
28     CREATE TABLE IF NOT EXISTS comments (
29     comment_id INT  AUTO_INCREMENT ,
30     post_id INT NOT NULL,
31     user_id INT ,
32     created_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
33     comment_data TEXT,
34     PRIMARY KEY (comment_id , post_id),
35     FOREIGN KEY (user_id)
36             REFERENCES USERS (user_id)
37             ON UPDATE CASCADE ON DELETE SET NULL );
38     Show tables;
39     desc users;
40     desc posts;
41     desc comments;
42     -- Student Note :  Due to some install problems the ENGINE types do not match
43     -- To display the foreign key relations need to query the constraints table
44     select * from information_schema.referential_constraints where constraint_schema = 'sqlweek3';
```

Results of running main script :

	#	Time	Action	Message
✓	1	22:38:56	CREATE DATABASE IF NOT EXISTS sqlWeek3	1 row(s) affected
✓	2	22:38:56	use sqlWeek3	0 row(s) affected
✓	3	22:38:56	select database()	1 row(s) returned
✓	4	22:38:56	show tables	0 row(s) returned
✓	5	22:38:56	CREATE TABLE IF NOT EXISTS users (user_id INT AUTO_INCREMENT PRIMARY KEY, username VARCH...	0 row(s) affected
✓	6	22:38:57	CREATE TABLE IF NOT EXISTS posts (post_id INT AUTO_INCREMENT PRIMARY KEY, user_id INT NOT ...	0 row(s) affected
✓	7	22:38:57	CREATE TABLE IF NOT EXISTS comments (comment_id INT AUTO_INCREMENT , post_id INT NOT NULL...	0 row(s) affected

show tables;

Result Grid — Filter Rows:

Tables_in_sqlweek3
comments
posts
users

desc users;

Result Grid — Filter Rows: — Export: — Wrap Cell Con

Field	Type	Null	Key	Default	Extra
user_id	int	NO	PRI	NULL	auto_increment
username	varchar(255)	NO		NULL	
password	varchar(255)	NO		NULL	
email	varchar(255)	NO		NULL	

desc posts;

Result Grid — Filter Rows: — Export: — Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
post_id	int	NO	PRI	NULL	auto_increment
user_id	int	NO	MUL	NULL	
created_date	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
post_data	text	YES		NULL	

desc comments;

Field	Type	Null	Key	Default	Extra
comment_id	int	NO	PRI	NULL	auto_increment
post_id	int	NO	PRI	NULL	
user_id	int	YES	MUL	NULL	
created_date	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
comment_data	text	YES		NULL	

Schema View of result of running main script.

SCHEMAS

Filter objects

- ▶ Tables
- ▶ Views
- Stored Procedures
- Functions
- ▼ **sqlweek3**
  - ▼ Tables
    - ▼ comments
      - ▼ Columns
        - ◆ comment_id
        - ◆ post_id
        - ◆ user_id
        - ◆ created_date
        - ◆ comment_data
      - ▼ Indexes
        - PRIMARY
        - user_id
      - ▼ Foreign Keys
        - comments_ibfk_1
      - ▶ Triggers
    - ▼ posts
      - ▼ Columns
        - ◆ post_id
        - ◆ user_id
        - ◆ created_date
        - ◆ post_data
      - ▼ Indexes
        - PRIMARY
        - user_id
      - ▼ Foreign Keys
        - posts_ibfk_1
      - ▶ Triggers
    - ▼ users
      - ▼ Columns
        - ◆ user_id
        - ◆ username
        - ◆ password
        - ◆ email
      - ▼ Indexes
        - PRIMARY
      - ▶ Foreign Keys
      - ▶ Triggers
  - Views
  - Stored Procedures
  - Functions
- ▶ sys

// Student note : due to an Engine mismatch verified foreign key from the schema

// constraints table

select * from information_schema.referential_constraints where constraint_schema = 'sqlweek3';

	CONSTRAINT_SCHEMA	CONSTRAINT_NAME	UNIQUE_CONSTRAINT_CATALOG	UNIQUE_CONSTRAINT_SCHEMA	UNIQUE_CONSTRAINT_NAME	MATCH_OPTION	UPDATE_RULE	DELETE_RULE	TABLE_NAME	REFERENCED_TABLE
▶	sqlweek3	comments_ibfk_1	def	sqlweek3	PRIMARY	NONE	CASCADE	SET NULL	comments	users
	sqlweek3	posts_ibfk_1	def	sqlweek3	PRIMARY	NONE	CASCADE	CASCADE	posts	users

URL to GitHub Repository:

https://github.com/david2joh/sqlweek3.git