

Database creation and required table structure

-- Create Database

```
CREATE DATABASE SocialMediaDB;
```

```
USE SocialMediaDB;
```

-- Users Table

```
CREATE TABLE Users (
```

```
    user_id INT PRIMARY KEY,
```

```
    username VARCHAR(50) NOT NULL UNIQUE,
```

```
    email VARCHAR(100) NOT NULL UNIQUE,
```

```
    join_date DATE NOT NULL
```

```
);
```

-- Posts Table

```
CREATE TABLE Posts (
```

```
    post_id INT PRIMARY KEY,
```

```
    user_id INT,
```

```
    content TEXT NOT NULL,
```

```
    post_date DATETIME NOT NULL,
```

```
    FOREIGN KEY (user_id) REFERENCES Users(user_id)
```

```
);
```

-- Likes Table

```
CREATE TABLE Likes (
```

```
    like_id INT PRIMARY KEY,
```

```
    user_id INT,
```

```
    post_id INT,  
    like_date DATETIME NOT NULL,  
    FOREIGN KEY (user_id) REFERENCES Users(user_id),  
    FOREIGN KEY (post_id) REFERENCES Posts(post_id)  
);
```

-- Comments Table

```
CREATE TABLE Comments (  
    comment_id INT PRIMARY KEY,  
    post_id INT,  
    user_id INT,  
    comment_text TEXT NOT NULL,  
    comment_date DATETIME NOT NULL,  
    FOREIGN KEY (post_id) REFERENCES Posts(post_id),  
    FOREIGN KEY (user_id) REFERENCES Users(user_id)  
);
```

-- Friendships Table

```
CREATE TABLE Friendships (  
    friendship_id INT PRIMARY KEY,  
    user_id1 INT,  
    user_id2 INT,  
    since_date DATE NOT NULL,  
    FOREIGN KEY (user_id1) REFERENCES Users(user_id),  
    FOREIGN KEY (user_id2) REFERENCES Users(user_id),  
    CONSTRAINT chk_diff_users CHECK (user_id1 <> user_id2)
```

);