



### 1. STUDENT NAME

Hunter Nuss

### 2. URL to STUDENT WEB SITE








[http://cis-linux2.temple.edu:8080/SP22\\_3308\\_tuj37193/index.html#/home](http://cis-linux2.temple.edu:8080/SP22_3308_tuj37193/index.html#/home)

### 3. user\_role TABLE DESIGN

Name: <input type="text" value="user_role"/>		Schema: SP22_3308_tuj37193									
Column	Datatype	PK	NN	UQ	BIN	UN	ZF	AI	G	Default / Expression	
 user_role_id	INT(11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
 user_role_type	VARCHAR(10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

#### 4. web\_user TABLE DESIGN and FOREIGN KEY

Table Design:

Name: web_user										
Column	Datatype	PK	NN	UQ	BIN	UN	ZF	AI	G	Default / Expression
 web_user_id	INT(11)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
 user_email	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 user_password	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 image	VARCHAR(300)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 membership_fee	DECIMAL(8,2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 birthday	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 user_role_id	INT(11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Foreign key:

```
Query 1
1 • alter table web_user add foreign key (user_role_id) references user_role (user_role_id);
```

Foreign Key		Referenced Table	
web_user_ibfk_1		`SP22_3308_tuj37193`.`user_role`	
<click to edit>			









Foreign key details 'web_user_ibfk_1'	
Column	Referenced Column
<input type="checkbox"/> web_user_id	
<input type="checkbox"/> user_email	
<input type="checkbox"/> user_password	
<input type="checkbox"/> image	
<input type="checkbox"/> membership_fee	
<input type="checkbox"/> birthday	
<input checked="" type="checkbox"/> user_role_id	user_role_id

## 5. "OTHER" TABLE DESIGN and FOREIGN KEY

Table Design:

Name:

user\_books

Column	Datatype		PK	NN	UQ	BIN	UN	ZF	AI	G	Default / Expression
 book_id	INT(11)	↕	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
 book_title	VARCHAR(45)	↕	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 author_name	VARCHAR(45)	↕	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
 price	DECIMAL(8,2)	↕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 release_date	DATE	↕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 book_image	VARCHAR(300)	↕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 description	VARCHAR(500)	↕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
 web_user_id	INT(11)	↕	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<click to edit>		↕	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Foreign key:

Name: user_books		Schema: SP22_3308_tuj37193	
Foreign Key	Referenced Table	Foreign key details 'user_books_ibfk_1'	
user_books_ibfk_1	'SP22_3308_tuj37193'. 'web_user'	Column	Referenced Column
<click to edit>		<input type="checkbox"/> book_id	
		<input type="checkbox"/> book_title	
		<input type="checkbox"/> author_name	
		<input type="checkbox"/> price	
		<input type="checkbox"/> release_date	
		<input type="checkbox"/> book_image	
		<input type="checkbox"/> description	
		<input checked="" type="checkbox"/> web_user_id	web_user_id
		On Update: RESTRICT	
		On Delete: RESTRICT	
		Comment:	

## 6. DATA ENTRY ERRORS

### a) Error: Duplicate user\_role PK

Execute SQL Statements

Error: std::exception

Message Log

Executing:  
INSERT INTO 'SP22\_3308\_tuj37193'.user\_role ('user\_role\_id', 'user\_role\_type') VALUES ('1', 'Admin');  
INSERT INTO 'SP22\_3308\_tuj37193'.user\_role ('user\_role\_id', 'user\_role\_type') VALUES ('2', 'Member');  
INSERT INTO 'SP22\_3308\_tuj37193'.user\_role ('user\_role\_id', 'user\_role\_type') VALUES ('3', 'View');  
INSERT INTO 'SP22\_3308\_tuj37193'.user\_role ('user\_role\_id', 'user\_role\_type') VALUES ('3', 'View');  
  
Operation failed: std::exception  
ERROR 1062: 1062: Duplicate entry '3' for key 'PRIMARY'  
SQL Statement:  
INSERT INTO 'SP22\_3308\_tuj37193'.user\_role ('user\_role\_id', 'user\_role\_type') VALUES ('3', 'View')

100% 1:1

Result Grid

user_role_id	user_role_ty...
1	Admin
2	Member
3	View
3	View
NULL	NULL

### b) Error: Invalid user\_role FK in web\_user record

Error: std::exception

Message Log

Executing:  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('cs@temple.edu', 'computer', 'computer', '25', '2000-01-01', '5');  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('test@gmail.com', 'testing', 'test', '20', '1990-06-28', '3');  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('teaching@temple.edu', 'college', 'teaching', '15', '2005-03-15', '1');  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('myemail@gmail.com', 'emails', 'email', '10', '1965-10-05', '1');  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('webapp@gmail.com', 'class', 'SQL workbench', '5', '2010-12-01', '2');  
  
Operation failed: std::exception  
ERROR 1452: 1452: Cannot add or update a child row: a foreign key constraint fails  
( 'SP22\_3308\_tuj37193'.web\_user, CONSTRAINT 'web\_user\_ibfk\_1' FOREIGN KEY ('user\_role\_id') REFERENCES 'user\_role' ('user\_role\_id'))  
SQL Statement:  
INSERT INTO 'SP22\_3308\_tuj37193'.web\_user ('user\_email', 'user\_password', 'image', 'membership\_fee', 'birthday', 'user\_role\_id') VALUES ('cs@temple.edu', 'computer', 'computer', '25', '2000-01-01', '5')

user_role_id
5
3
1
1
2
NULL

### c) Error: Cannot delete a user\_role record that's referenced by a web\_user record

Execute SQL Statements

Error: std::exception

Message Log

Operation failed: std::exception  
Executing:  
DELETE FROM 'SP22\_3308\_tuj37193'.user\_role WHERE 'user\_role\_id'='3';  
  
ERROR 1451: 1451: Cannot delete or update a parent row: a foreign key constraint fails  
( 'SP22\_3308\_tuj37193'.web\_user, CONSTRAINT 'web\_user\_ibfk\_1' FOREIGN KEY ('user\_role\_id') REFERENCES 'user\_role' ('user\_role\_id'))  
SQL Statement:  
DELETE FROM 'SP22\_3308\_tuj37193'.user\_role WHERE 'user\_role\_id'='3'

#### d) Invalid web\_user FK in “other” record


Execute SQL Statements

Error: std::exception

Message Log

Operation failed: std::exception  
Executing:  
UPDATE `SP22\_3308\_tuj37193`.`user\_books` SET `web\_user\_id`='12' WHERE `book\_id`='20';

ERROR 1452: 1452: Cannot add or update a child row: a foreign key constraint fails  
(`SP22\_3308\_tuj37193`.`user\_books`, CONSTRAINT `user\_books\_ibfk\_1` FOREIGN KEY (`web\_user\_id`) REFERENCES `web\_user` (`web\_user\_id`))  
SQL Statement:  
UPDATE `SP22\_3308\_tuj37193`.`user\_books` SET `web\_user\_id`='12' WHERE `book\_id`='20'

Import: 

web_user_id
6
7
10
9
10
9
8
7
11
12
<b>NULL</b>

#### e) Error trying to delete a web\_user record that's referenced by an “other” record

web_user_id
6
7
8
9
10
<b>NULL</b>

Error: std::exception

Message Log

Operation failed: std::exception  
Executing:  
DELETE FROM `SP22\_3308\_tuj37193`.`web\_user` WHERE `web\_user\_id`='11';

ERROR 1451: 1451: Cannot delete or update a parent row: a foreign key constraint fails  
(`SP22\_3308\_tuj37193`.`user\_books`, CONSTRAINT `user\_books\_ibfk\_1` FOREIGN KEY (`web\_user\_id`) REFERENCES `web\_user` (`web\_user\_id`))  
SQL Statement:  
DELETE FROM `SP22\_3308\_tuj37193`.`web\_user` WHERE `web\_user\_id`='11'

## 7. SELECT STATEMENTS

a) **USER\_ROLE**: all rows, all columns, sorted by **user\_role\_id**.

```
1 • SELECT * FROM SP22_3308_tuj37193.user_role;
```

	user_role_id	user_role_ty...
▶	1	Admin
	2	Member
	3	View
	NULL	NULL

```
✓ 4 15:42:41 SELECT * FROM SP22_3308_tuj37193.user_role LIMIT 0, 1000
```

b) **WEB\_USER**: all rows, all columns, sorted by **web\_user\_id**.

```
1 • SELECT * FROM web_user;
```

web_user_id	user_email	user_password	image	membership_fee	birthday	user_role_id
▶ 6	cs@temple.edu	computer	https://cis-linux...	25.00	2000-01-01	2
7	test@gmail.com	testing	https://cis-linux...	20.00	1990-06-28	3
8	teaching@temple....	college	https://cis-linux...	15.00	2005-03-15	1
9	myemail@gmail.com	emails	https://cis-linux...	10.00	1965-10-05	1
10	webapp@gmail.com	class	https://cis-linux...	5.00	2010-12-01	2
11	null@gmail.com	nullrecord	NULL	NULL	NULL	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL

web\_user 3

Time	Action	Response
✓ 1 15:12:38	SELECT * FROM web_user LIMIT 0, 1000	6 row(s) returned

c) **WEB\_USER JOINED WITH USER\_ROLE**: all rows, certain columns, sorted.

```
1 • SELECT user_role_type, user_email FROM web_user, user_role WHERE web_user.user_role_id = user_role.user_role_id
```

user_role_ty...	user_email
▶ Admin	teaching@temple....
Admin	myemail@gmail.com
Member	cs@temple.edu
Member	webapp@gmail.com
View	test@gmail.com
View	null@gmail.com

Result 7

Time	Action	Response
✓ 1 19:32:15	SELECT user_role_type, user_email FROM web_user, user_role WHERE web_user.user_role_id = user_role.user_role_id LI...	6 row(s) returned

f) "OTHER": all rows, all columns, sorted by the id of your "other" table.

1 • `SELECT * FROM user_books;`

100% 26:1

Result Grid Filter Rows: Search Edit: Export/Import:

book_id	book_title	author_name	price	release_date	book_image	description	web_user_id
11	The Road	Cormac McCarthy	12.00	2006-09-26	https://m.media-amazon.com/images/I/41t25f...	A father and son journey on foot across a post-a...	6
12	The Mist	Steven King	11.00	1980-08-29	https://m.media-amazon.com/images/I/51oMEU...	A unnaturally thick cloud of mist spreads across...	7
13	War and Peace	Leo Tolstoy	NUL	NUL	NUL	NUL	10
14	Lord of the Rings	J. R. R. Tolkien	14.00	1954-07-29	https://m.media-amazon.com/images/I/51bJhsl5...	NUL	9
15	Frankenstein	Mary Shelley	6.00	1818-01-01	NUL	NUL	10
16	Slaughterhouse-Five	Kurt Vonnegut	15.00	1969-03-31	https://images.penguinrandomhouse.com/cover/...	NUL	9
17	Fahrenheit 451	Ray Bradbury	8.30	1953-10-19	https://m.media-amazon.com/images/I/41ql9qu...	A future American society where books are outl...	8
18	The Stand	Steven King	24.30	NUL	https://images-na.ssl-images-amazon.com/imag...	A few surviving humans gather after a deadly pa...	7
19	The Girl with the Dragon Tattoo	Stieg Larsson	13.60	NUL	https://m.media-amazon.com/images/I/51L+3fb...	NUL	11
20	A Song of Ice and Fire	George R. R. Martin	15.50	1996-08-01	https://i.gr-assets.com/images/S/compressed.ph...	The first book of the Game of Thrones series	11
NUL	NUL	NUL	NUL	NUL	NUL	NUL	NUL

user\_books 3

Action Output

	Time	Action	Response
1	14:51:57	SELECT * FROM user_books LIMIT 0, 1000	10 row(s) returned

g) "OTHER" JOINED WITH WEB\_USER all rows, certain columns, sorted.

1 • `SELECT book_title, user_email FROM user_books, web_user WHERE user_books.web_user_id = web_user.web_user_id;`

100% 30:1

Result Grid Filter Rows: Search Export:

book_title	user_email
The Road	cs@temple.edu
Lord of the Rings	myemail@gmail.com
Slaughterhouse-Five	myemail@gmail.com
The Girl with the Dragon Tattoo	null@gmail.com
A Song of Ice and Fire	null@gmail.com
Fahrenheit 451	teaching@temple....
The Mist	test@gmail.com
The Stand	test@gmail.com
War and Peace	webapp@gmail.com
Frankenstein	webapp@gmail.com

Result 2

Action Output

	Time	Action	Response
1	14:34:42	SELECT book_title, user_email FROM user_books, web_user WHERE user_books.web_user_id = web_user.web_user_id LIM...	10 row(s) returned

h) "OTHER" JOINED WITH WEB\_USER some rows, certain columns, sorted

1 • `SELECT book_title, user_email FROM user_books, web_user WHERE user_books.web_user_id = web_user.web_user_id ORDER BY book_id DESC LIMIT 5;`

100% 138:1

Result Grid Filter Rows: Search Export: Fetch rows:

book_title	user_email
A Song of Ice and Fire	null@gmail.com
The Girl with the Dragon Tattoo	null@gmail.com
The Stand	test@gmail.com
Fahrenheit 451	teaching@temple....
Slaughterhouse-Five	myemail@gmail.com

Result 5

Action Output

	Time	Action	Response
1	14:41:12	SELECT book_title, user_email FROM user_books, web_user WHERE user_books.web_user_id = web_user.web_user_id ORD...	5 row(s) returned