

# CCT395, Week 7

## SQL with PHP

Yuri Takhteyev

University of Toronto

October 20, 2010



This presentation is licensed under Creative Commons Attribution License, v. 3.0. To view a copy of this license, visit <http://creativecommons.org/licenses/by/3.0/>. This presentation incorporates images from the Crystal Clear icon collection by Everaldo Coelho, available under LGPL from <http://everaldo.com/crystal/>.

# The Project

- **Groups of up to 3 students**
  - The same requirements regardless of group size
- **6-12 entities**
  - Roughly the same complexity as Madame Z's database
  - A simple PHP front-end
- **Proposal due on November 3**
  - A list of group members
  - A functional specification (be clear what is out of scope)
  - An ER diagram
  - Who is going to do what and when

# Facebook runs on MySQL

facebook

Email

Keep me logged in

Password

[Forgot your password?](#)

Login

Sign Up

MySQL at Facebook is on Facebook

Sign up for Facebook to connect with MySQL at Facebook.



Devoted to making MySQL better. Written by people who work at Facebook.

## Information

Founded:  
2009

42,703 People Like This



Nesrine  
Messai



Krishna  
Chaitanya



Martin  
Prayoga

MySQL at Facebook



Wall

Info

Notes

Discussions

Links

MySQL at Facebook + Others

Just MySQL at Facebook

Just Others



**MySQL at Facebook** I just registered for PgWest 2010. I look forward to learning more about current work on PostgreSQL.



**PgWest 2010 | The PostgreSQL Conference**  
[www.postgresqlconference.org](http://www.postgresqlconference.org)

Thursday at 12:18pm · Comment · Like

Paul Saab, Bill Blum, Chetan Tanna and 51 others like this.

View all 7 comments



**MySQL at Facebook** I think they both have awesome technology and continue to improve.  
Yesterday at 9:24am · 2 people · Flag



**Ricky Elrod** Indeed they do, I was just pulling your leg. Have fun at the conference :)  
Yesterday at 9:26am · Flag

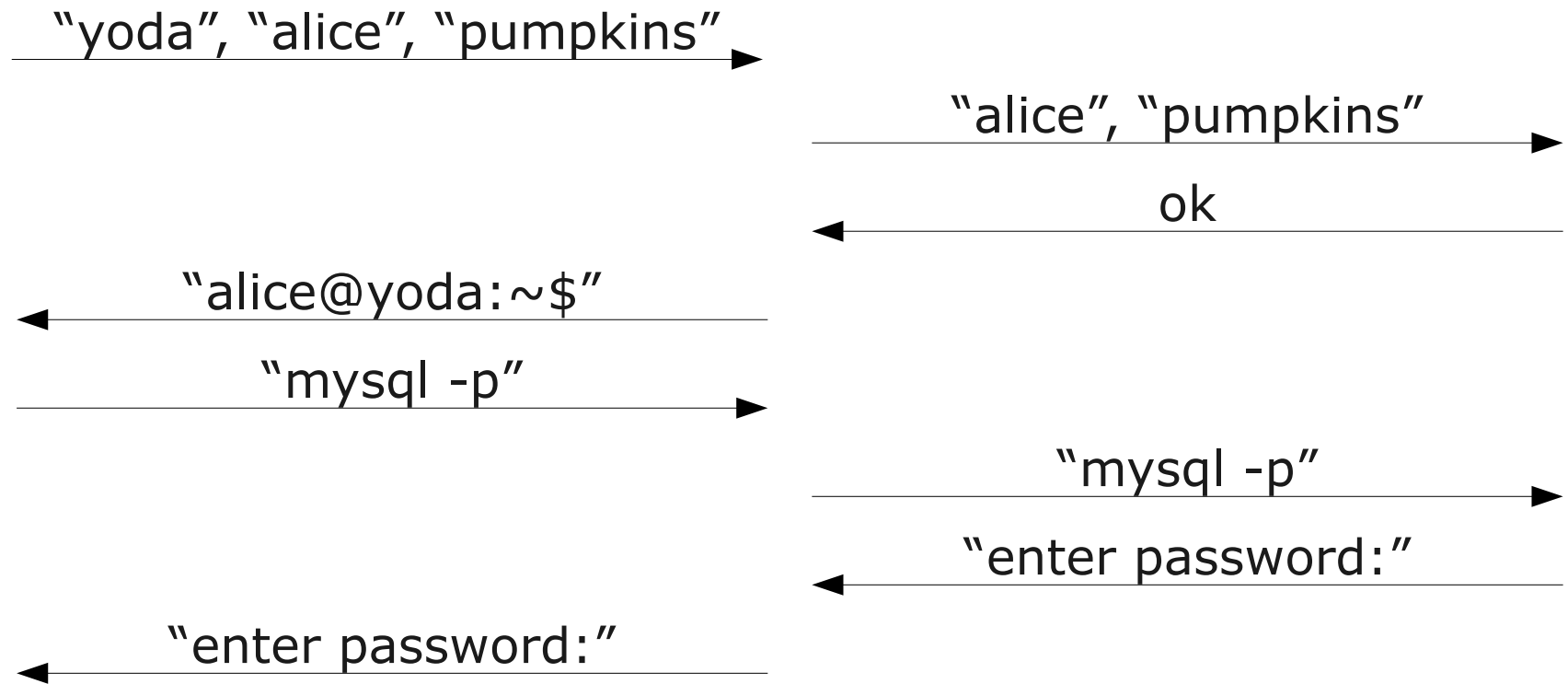


**MySQL at Facebook** Kristian Nielsen had a very interesting presentation on making replication better in MariaDB. Perhaps one day he will share that (hint, hint).

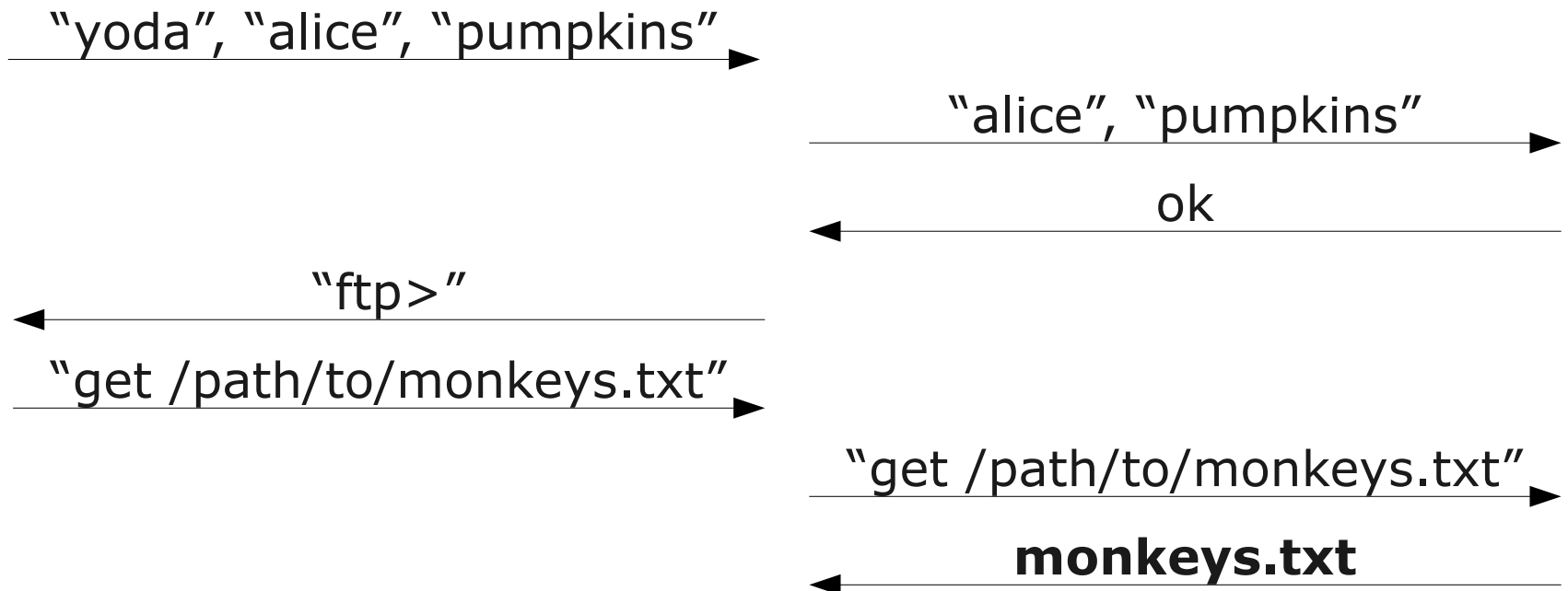
October 11 at 8:21am · Comment · Like

Kian Sin Teo, Donald G. Lane Jr., Roja Rani Penmetsa and 38 others like this.

# Telnet (1969)



# FTP (1971)



the file is saved locally

# Anonymous FTP



"yoda", "/path/to/monkeys.txt" →

→ "get /path/to/monkeys.txt" →

← **monkeys.txt** ←

the file is saved locally

ftp://yoda/path/to/monkeys.txt

# HTTP (1991)



"yoda", "/path/to/monkeys.html" →

→ "GET /path/to/monkeys.html"

← **monkeys.html**

← **monkeys.htm** is displayed

http://yoda/path/to/monkeys.html

# HTML

```
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>
      CCT395H5F: Databases (Special Topics
      in CCIT)
    </title>
  </head>
  <body>
    <h1>
      CCT395H5F, University of Toronto,
      Mississauga
    </h1>
    ...
```



# CGI



"yoda", "/path/to/monkeys.cgi" →

"GET /path/to/monkeys.cgi" →

**html output of monkeys.cgi** ←

← **html output** is displayed

monkeys.cgi contains **code**, but **returns** HTML

PHP = HTML + Code

# HTML

```
<body>  
  17 monkeys are happy.  
</body>
```

17 monkeys are happy.

# PHP

```
<body>  
  <?php echo 17; ?>  
  monkeys are happy.  
</body>
```

```
<body>  
  17  
  monkeys are happy.  
</body>
```

17 monkeys are happy.

# Variables

```
<body>  
  <?php  
    $count=17;  
    echo $count;  
  ?>  
  monkeys are happy.  
</body>
```

17 monkeys are happy.

# Concatenation

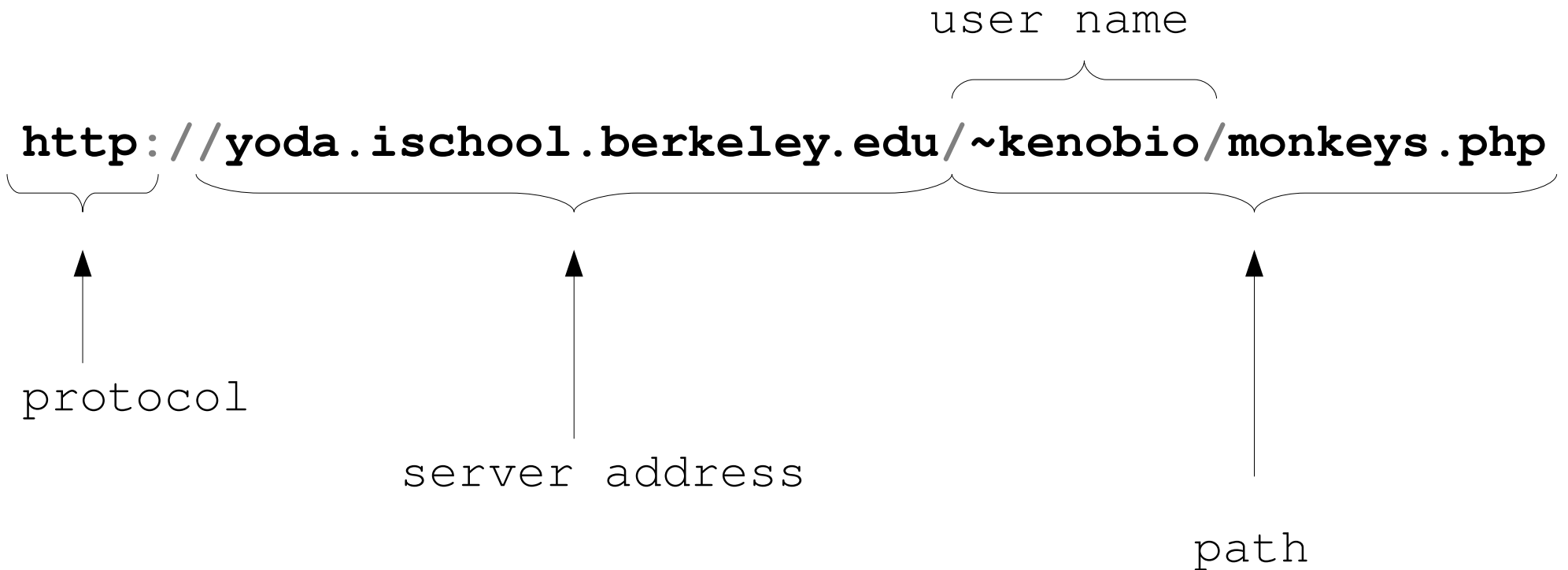
```
<body>  
  <?php  
    $mood="happy";  
    $count=17;  
    echo $count . " monkeys are "  
        . $mood;  
  ?>  
</body>
```

17 monkeys are happy.

# Concatenation

```
<?php
    $mood="happy";
    $count=17;
    echo $count . " monkeys are "
        . $mood;
?>
```

# A Demo





# Always the Same?

## **Parameters**

- additional data from the user

## **Database**

- information that we store

# Database

```
<?php
    $connection = mysql_connect ("localhost",
                                "kenobio",
                                "th3f0rc3");
mysql_select_db ("kenobio", $connection);
$query =
    "select count (*) from monkeys where mood='H' ";
$result = mysql_query ($query);
$row = mysql_fetch_array ($result);
echo $row['count (*)'];
echo " monkeys are happy.";
?>
```

# Iterating

```
<?php
    $connection = mysql_connect ("localhost",
                                "kenobio",
                                "th3f0rc3");
mysql_select_db ("kenobio", $connection);
$query =
    "select * from monkeys where mood='H' ";
$result = mysql_query ($query);
while ($row = mysql_fetch_array ($result)) {
    echo $row['monkey_id'] . "<br/>";
}
?>
```

# Counting

```
<?php
    $connection = mysql_connect ("localhost",
                                "kenobio",
                                "th3f0rc3");
mysql_select_db ("kenobio", $connection);
$query =
    "select * from monkeys where mood='H' ";
$result = mysql_query ($query);
$count = 0;
while ($row = mysql_fetch_array ($result)) {
    echo $row['monkey_id'] . "<br/>";
    $count = $count + 1;
}
echo "Count: " . $count . " monkeys are happy.";
?>
```

# Conditionals

```
<?php
    $connection = mysql_connect ("localhost",
                                "kenobio",
                                "th3f0rc3");

    if (!$connection) {
        die('Could not connect to the database: '
            . mysql_error());
    }
    mysql_select_db ("kenobio", $connection);
    $query =
        "select * from monkeys where mood='H' ";
    $result = mysql_query ($query);
    $count = 0;
    ...
```

# Conditionals

```
mysql_select_db("kenobio", $connection);
$query = "select * from monkeys";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    if ($row['mood']=="H") {
        echo $row['monkey_id'] . "<br/>";
        $count = $count + 1;
    }
}
echo "Count: " . $count . " monkeys are happy.";
```

# Conditionals

```
mysql_select_db("kenobio", $connection);
$query = "select * from monkeys";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    echo $row['name'] . ": "
        . $row['mood'] . "<br/>";
    if ($row['mood']=="H") {
        $count = $count + 1;
    }
}
echo "Count: " . $count . " monkeys are happy.";
```

# Conditionals

```
mysql_select_db("kenobio", $connection);
$query = "select * from monkeys";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    $mood = $row['mood'];
    if ($mood=="H") {
        echo " :) ";
        $count = $count + 1;
    } else {
        echo " :( ";
    }
    echo $row['name'] . "<br/>";
}
echo "Count: " . $count . " monkeys are happy.";
```



## **Parameters**

- additional data from the user

## **Database**

- information that we store

# GET Parameters

Monkeys with mood

```
"<?php  
    echo $_GET["mood"];  
?>" :
```

Monkeys with mood

```
"H" :
```

Monkeys with mood "H":

# GET Parameters

`http://.../.../monkeys_3.php?mood=H`

# GET Parameters

```
$desired_mood = $_GET["mood"];
echo "Monkeys with mood '" . $desired_mood
    . "':<br/>";
$query = "select * from monkeys";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    if ($row['mood']==$desired_mood) {
        $count = $count + 1;
        echo $row['name'] . "<br/>";
    }
}
echo "Count: " . $count;
```

# Dynamic SQL

```
$desired_mood = $_GET["mood"];
echo "Monkeys with mood '" . $desired_mood
    . "' :<br/>";
$query = "select * from monkeys where mood='"
    . $desired_mood . "'";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    $count = $count + 1;
    echo $row['name'] . "<br/>";
}
echo "Count: " . $count;
```

**Don't do this!**

# Dynamic SQL

```
$desired_mood = $_GET["mood"];
if ($desired_mood!="H" and $desired_mood!="S") {
    die ("Illegal mood");
}
echo "Monkeys with mood '" . $desired_mood
    . "':<br/>";
$query = "select * from monkeys where mood='"
    . $desired_mood . "'";
$result = mysql_query($query);
$count = 0;
while($row = mysql_fetch_array($result)) {
    $count = $count + 1;
    echo $row['name'] . "<br/>";
}
echo "Count: " . $count;
```

# HTML Forms

```
<form action="monkeys_5.php" method="get">  
  Please select mood:  
  <input type="text" name="mood" />  
  <input type="submit" />  
</form>
```

# HTML Forms

```
<form action="monkeys_5.php" method="get">
  Please select mood:<br/>
  <input type="radio" name="mood" value="H"/>
  happy<br/>
  <input type="radio" name="mood" value="S"/>
  sad<br/>
  <input type="submit" />
</form>
```



# POST Parameters

## monkey\_form\_3.html:

```
<form action="monkeys_6.php" method="post">
  Please select mood:<br/>
  <input type="radio" name="mood" value="H"/>
  happy<br/>
  <input type="radio" name="mood" value="S"/>
  sad<br/>
  <input type="submit" />
</form>
```

## monkeys\_6.php:

```
$desired_mood = $_POST["mood"];
```

Questions?