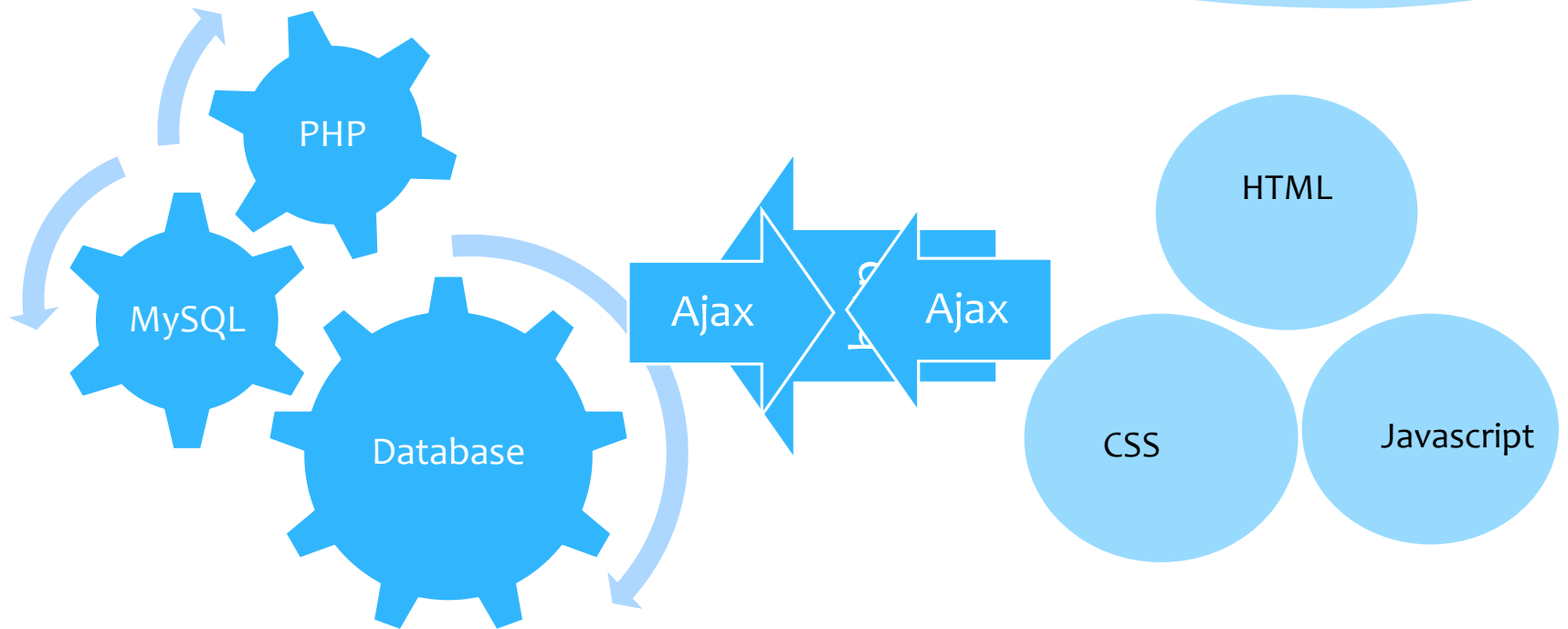


# PHP / Database / MySQL / Authentication

Benjamin Yu

# Big Picture



# Database Design

- \* How to organize data
- \* Goal: integrity
  - \* One instance of each piece of data
  - \* Why? Multiple instances -> inconsistency
  - \* E.g. two or more names for the same student

# Examples

Last Name	First Name	eMail
Smith	Brown	bsmith@msn.com
Doe	Jane	jdoe@gmail.com
Chan	Jackie	chan@me.com

# Adding More Data

Last Name	First Name	eMail	Posting	Comment
Smith	Brown	<a href="mailto:bsmith@msn.com">bsmith@msn.com</a>	I am throwing a party tonight at my place.	I am coming.
Doe	Jane	<a href="mailto:jdoe@gmail.com">jdoe@gmail.com</a>	There is a new movie starting this Friday.	Let's go.
Chan	Jackie	<a href="mailto:chan@me.com">chan@me.com</a>	I need to study for an exam.	No need to study.

# Adding More Data

Last Name	First Name	eMail	Posting	Comment	By
Smith	Brown	<u>bsmith@msn.com</u>	I am throwing a party tonight at my place.	I am coming.	Jane
Doe	Jane	<u>jdoe@gmail.com</u>	There is a new movie starting this Friday.	Let's go.	Brown
Chan	Jackie	<u>chan@me.com</u>	I need to study for an exam.	No need to study.	Brown

# Adding More Data

Last Name	First Name	eMail	Posting	Comment1	By1	Comment2	By2
Smith	Brown	<u>bsmith@msn.com</u>	I am throwing a party tonight at my place.	I am coming.	Jane	Me too.	Jackie
Doe	Jane	<u>jdoe@gmail.com</u>	There is a new movie starting this Friday.	Let's go.	Brown	I am studying.	Jackie
Chan	Jackie	<u>chan@me.com</u>	I need to study for an exam.	No need to study.	Brown	Just chill.	Brown

# Adding More Data

Last Name	First Name	eMail	Posting	Comment1	By1	Comment2	By2	Comment3	By3
Smith	Brown	<a href="mailto:bsmith@msn.com">bsmith@msn.com</a>	I am throwing a party tonight at my place.	I am coming.	Jane	Me too.	Jackie	...	...
Doe	Jane	<a href="mailto:jdoe@gmail.com">jdoe@gmail.com</a>	There is a new movie starting this Friday.	Let's go.	Brown	I am studying.	Jackie	...	...
Chan	Jackie	<a href="mailto:chan@me.com">chan@me.com</a>	I need to study for an exam.	No need to study.	Brown	Just chill.	Brown	...	...

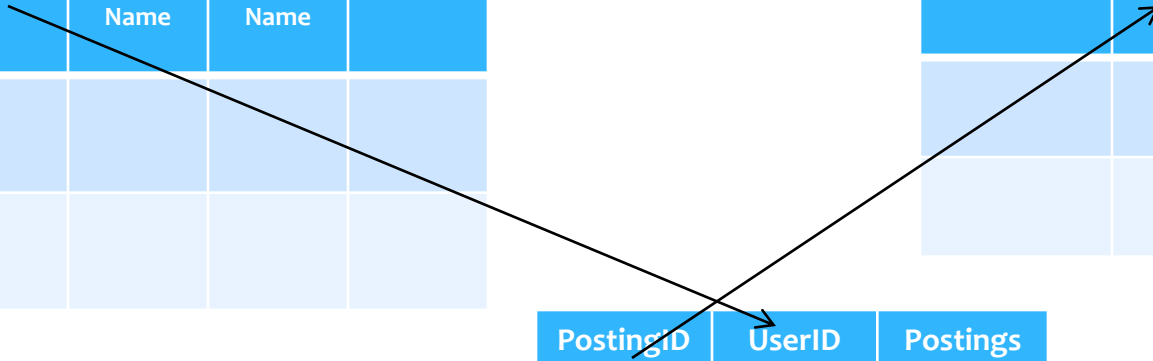


# Proper Way?

UserID	Last Name	First Name	eMail

CommentID	PostingID	Comments	By

PostingID	UserID	Postings



# Proper Way?

UserID	Last Name	First Name	eMail
1	Smith	Brown	bsmith@msn.com
2	Doe	Jane	jdoe@gmail.com

CommentID	PostingID	Comments	By
5001	1001	I'm coming	2
5002	1002	Let's Go	1

PostingID	UserID	Postings
1001	1	Party tonight.
1002	2	New movie.

# Alternatives

- \* Use database provided for lab
- \* Create a database hosted on the bcsitdev domain
- \* Use an external hosting service (e.g. [ooowebhost.com](http://ooowebhost.com))

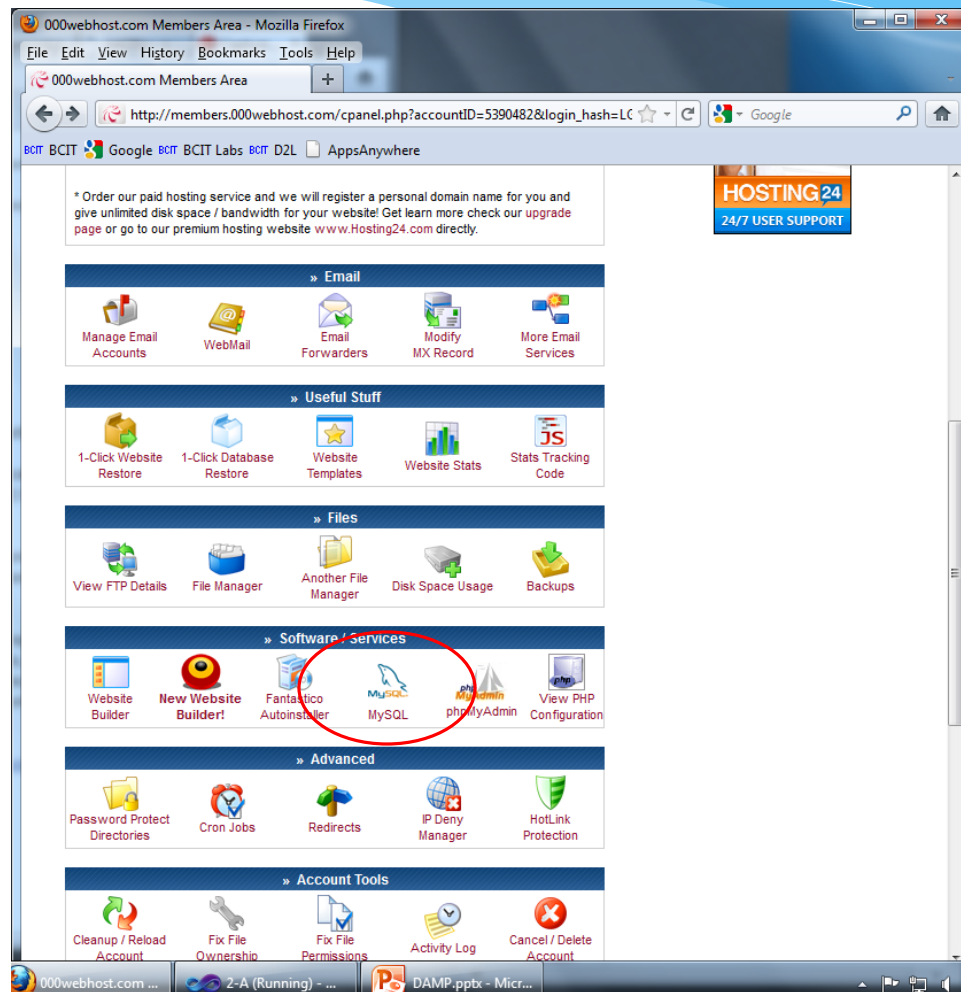
# Essential Ingredients

- \* Host
- \* User id
- \* Password
- \* Database

# Essential Ingredients

- \* Host: bcitdevcom.ipagemysql.com
- \* User id: comp15362014
- \* Password: 2014-1536
- \* Database: 1536forum
  
- \* (Look in config.php)

# MySQL



# My Databases


000webhost.com Members Area - Mozilla Firefox

File Edit View History Bookmarks Tools Help

000webhost.com Members Area


http://members.000webhost.com/panel/mysql.php?accountID=5390482&login\_ha

Google BCIT BCIT Labs BCIT D2L AppsAnywhere

 **000webhost.com**  
better than paid hosting


LIST ACCOUNTS EARN MONEY! GET HELP LOGOUT [X]

Manage another domain  
byu.comze.com Go Create New

 **Manage MySQL Databases**

MySQL databases are required by many web applications including bulletin boards, content management systems, and others. To use MySQL, you need to create database and user, which will be automatically assigned to this database. Click for phpMyAdmin when database is created.

*Important: MySQL Host for any database in this account is **mysql5.000webhost.com**, do not use localhost!*

 Create new database and user


MySQL database name: a3255775\_



MySQL user name: a3255775\_

Password for MySQL user:

Enter password again:

Create database


 List of your current databases and users:

» MySQL Database	» MySQL User	» MySQL Host	» Action
a3255775_db1	a3255775_db1	mysql5.000webhost.com	 

[ Go Back ]

**» Account Information**

Domain	byu.comze.com
Username	a3255775
Password	*****
Disk Usage	0.3 / 1500.0 MB
Bandwidth	100000 MB (100GB)
Home Root	/home/a3255775
Server Name	server21.000webhost.com
IP Address	31.170.160.85
Apache ver.	2.2.19 (Unix)
PHP version	5.2.*
MySQL ver.	5.1
Activated On	2012-01-20 08:30
Status	Active



# phpMyAdmin

sql5.000webhost.com / localhost / a3255775\_db1 | phpMyAdmin 2.11.4 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

000webhost.com Members Area x sql5.000webhost.com / localhost / a3... x +

http://sql5.000webhost.com/phpMyAdmin/index.php?db=a3255775\_db1&lang=en Google

BCIT BCIT Google BCIT BCIT Labs BCIT D2L AppsAnywhere

**phpMyAdmin**

a3255775\_db1 (2)  
account  
names

**Server: localhost Database: a3255775\_db1**

Structure SQL Search Query Export Import Operations

Table	Action	Records	Type	Collation
account		0	MyISAM	latin1_general_ci
names		2	MyISAM	latin1_general_ci
2 table(s)	Sum	2	MyISAM	latin1_general_ci

Check All / Uncheck All With selected: ▾

Print view Data Dictionary



# Table Content

The screenshot shows the phpMyAdmin interface. On the left sidebar, the database 'a3255775\_db1' is selected, and the table 'names' is highlighted. The main panel shows the 'Table: names' view. The top navigation bar includes links for Browse, Structure, SQL, Search, Insert, Export, Import, Operations, and Empty. Below this, a yellow status bar indicates 'Showing rows 0 - 1 (2 total, Query took 0.0007 sec)'. The SQL query area contains the query: 

```
SELECT *  
FROM 'names'  
LIMIT 0, 30
```

. Below the query, there are links for Profiling, Edit, Explain SQL, Create PHP Code, and Refresh. The table display settings show 'Show: 30 row(s) starting from record # 0' in 'horizontal' mode, with headers repeating every 100 cells. The table is sorted by key 'None'. The table data is as follows:

	lname	fname	email
<input type="checkbox"/>	Smith	John	jsmith@msn.com
<input type="checkbox"/>	Jane	Mary	mjane@gmail.com

A red oval highlights the table data area. Below the table, there are links for 'Check All / Uncheck All' and 'With selected:'. The bottom of the interface includes a 'Query results operations' section with links for Print view, Print view (with full texts), Export, and CREATE VIEW. At the very bottom, there is a link to 'Open new phpMyAdmin window'.

# PHP and MySQL

```
<?php
```

```
    $link = new mysqli("bcitdevcom.ipagemysql.com",  
                      "comp15362014", "2014-1536")  
        or die("Could not connect: " . $link->connect_error());  
    print ("Connected successfully<br>");  
    $link->select_db("1536forum");  
    $query = "SELECT * FROM members";  
    $result = $link->query($query);  
    while ($row = $result->fetch_assoc()) {           // get a row  
        $lastName = $row['lastname'];    // get last name  
        $firstName = $row['firstname'];  // get first name  
        echo $lastName . ", " . $firstName . "<br>"; }  
    $link->close();
```

```
?>
```

# Authentication

- \* Use HTTP authentication
- \* Type: WWW-Authenticate
- \* Supported by all browsers
- \* No encryption but can be used with https

# Code

## Try It

```
<?php

//assume user is not authenticated
$auth = false;

$user = $_SERVER['PHP_AUTH_USER'];
$pass = $_SERVER['PHP_AUTH_PW'];

if ( isset($user) && isset($pass) )
{
    //connect to db
    $link = mysql_connect("mysql5.000webhost.com",
        "a3255775_db1", "bcitsqlo")
        or die("Could not connect: " . mysql_error());
    print ("Connected successfully");
    mysql_select_db("a3255775_db1", $link);

    //SQL query to find if this entered username/password is in
    the db
    $sql = "SELECT * FROM users WHERE
    user = '$user' AND
    pass = '$pass'";

    //put the SQL command and SQL instructions into variable
    $result = mysql_query($sql) or die('Unable to connect.');
```

```
//get number or rows in command; if more than 0, row is found
$num_matches = mysql_num_rows($result);

if ($num_matches !=0)
{
    //matching row found authenticates user
    $auth = true;
    echo "<br/>You are in!!<br />";
}
}

if (!$auth)
{
    header('WWW-Authenticate: Basic realm="Ben's Database"');
    header('HTTP/1.0 401 Unauthorized');
    echo 'You must enter a valid username & password.';
    exit;
}
else
{
    echo 'Success!';
}
?>
```

# Adding Authentication To Your Pages

**Try It**

- \* Add authentication code to the beginning of your pages
- \* Convert suffix to .php
- \* Done!