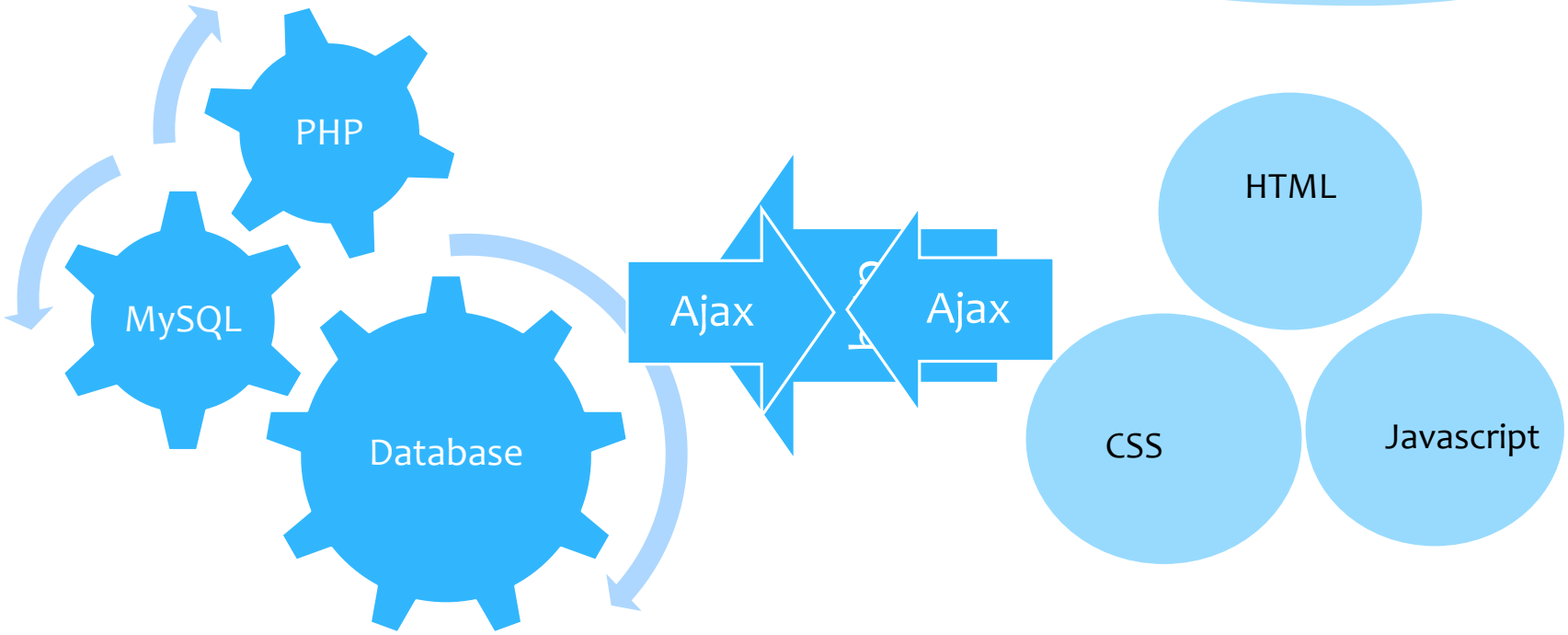
PHP / Database / MySQL / Authentication

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	bsmith@msn.com	I am throwing a party tonight at my place.	I am coming.
Doe	Jane	jdoe@gmail.com	There is a new movie starting this Friday.	Let's go.
Chan	Jackie	chan@me.com	I need to study for an exam.	No need to study.

Adding More Data

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

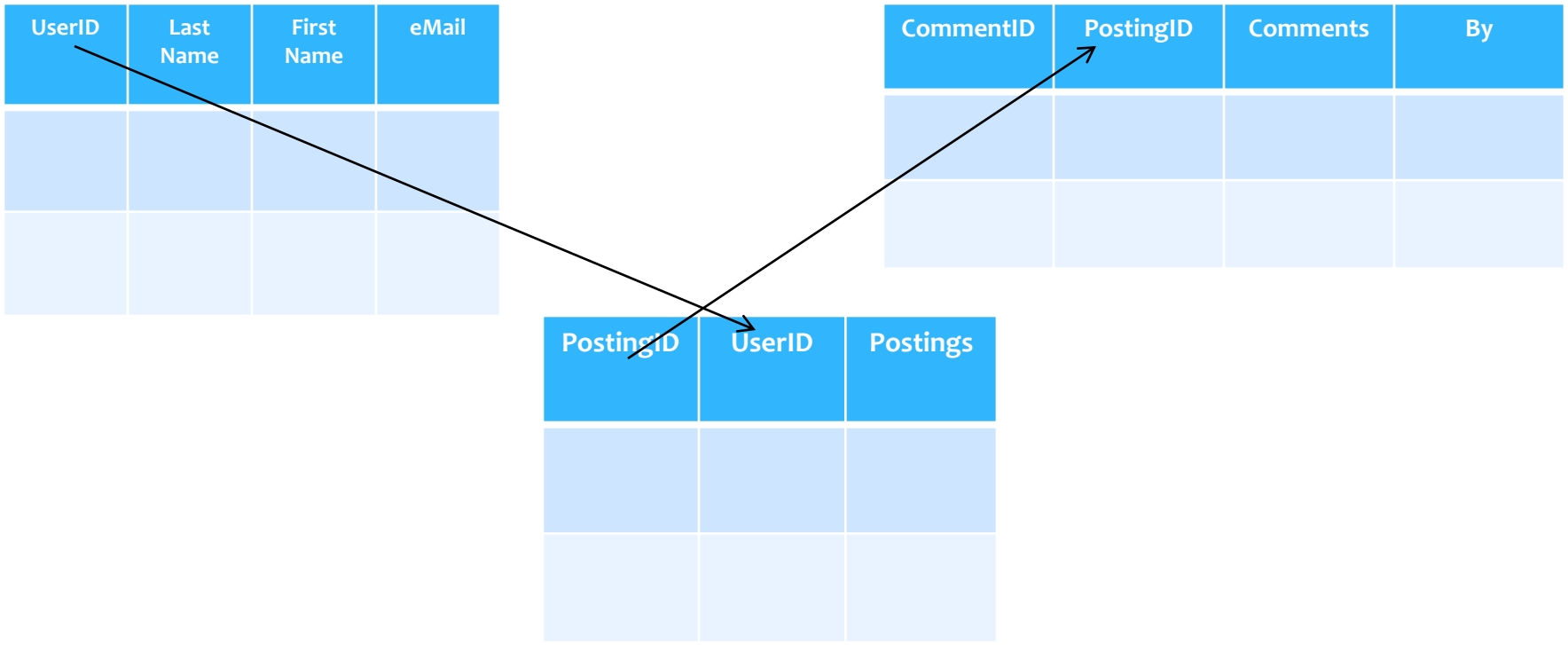
Adding More Data

Last Name	First Name	eMail	Posting	Comment1	By1	Comment2	By2
Smith	Brown	bsmith@msn.com	I am throwing a party tonight at my place.	I am coming.	Jane	Me too.	Jackie
Doe	Jane	jdoe@gmail.com	There is a new movie starting this Friday.	Let's go.	Brown	I am studying.	Jackie
Chan	Jackie	chan@me.com	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	bsmith@msn.com	I am throwing a party tonight at my place.	I am coming.	Jane	Me too.	Jackie	…	…
Doe	Jane	jdoe@gmail.com	There is a new movie starting this Friday.	Let's go.	Brown	I am studying.	Jackie	…	…
Chan	Jackie	chan@me.com	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 bcitdev domain
* Use an external hosting service (e.g. 000webhost.com)

Essential Ingredients

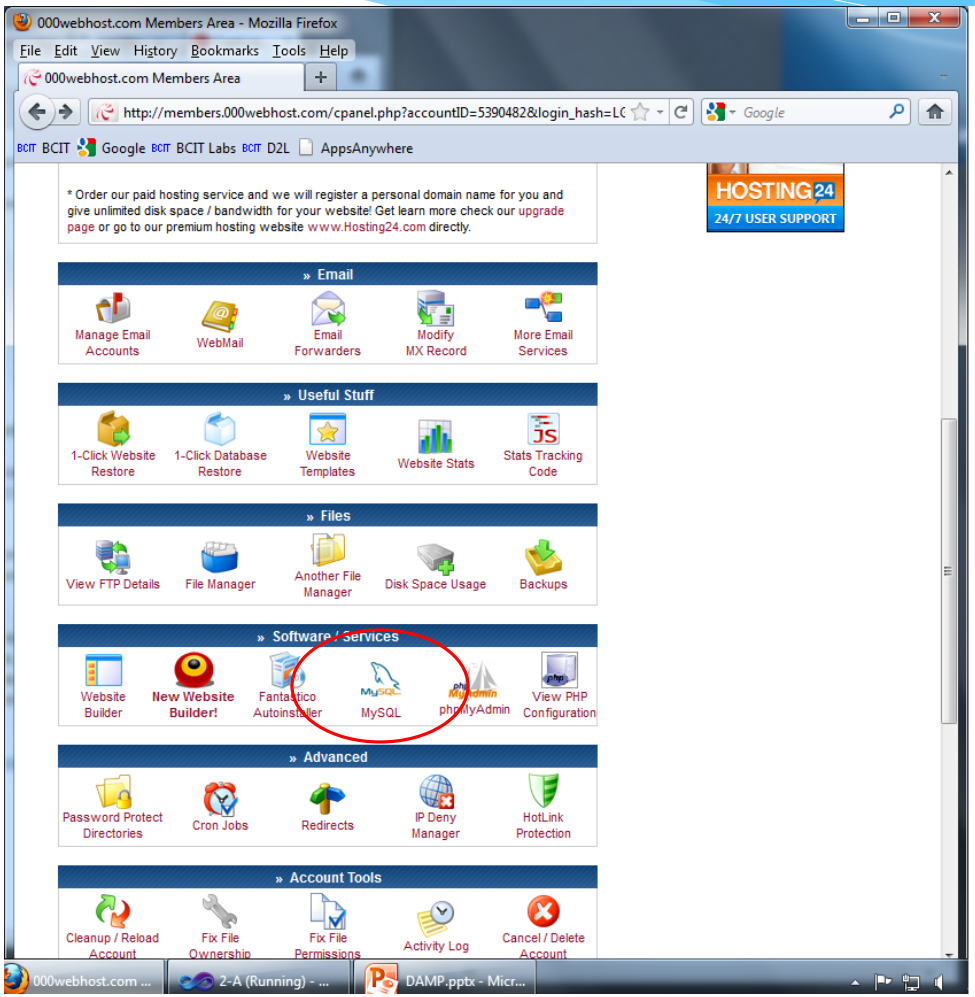
* Host
* User id
* Password
* Database

Essential Ingredients

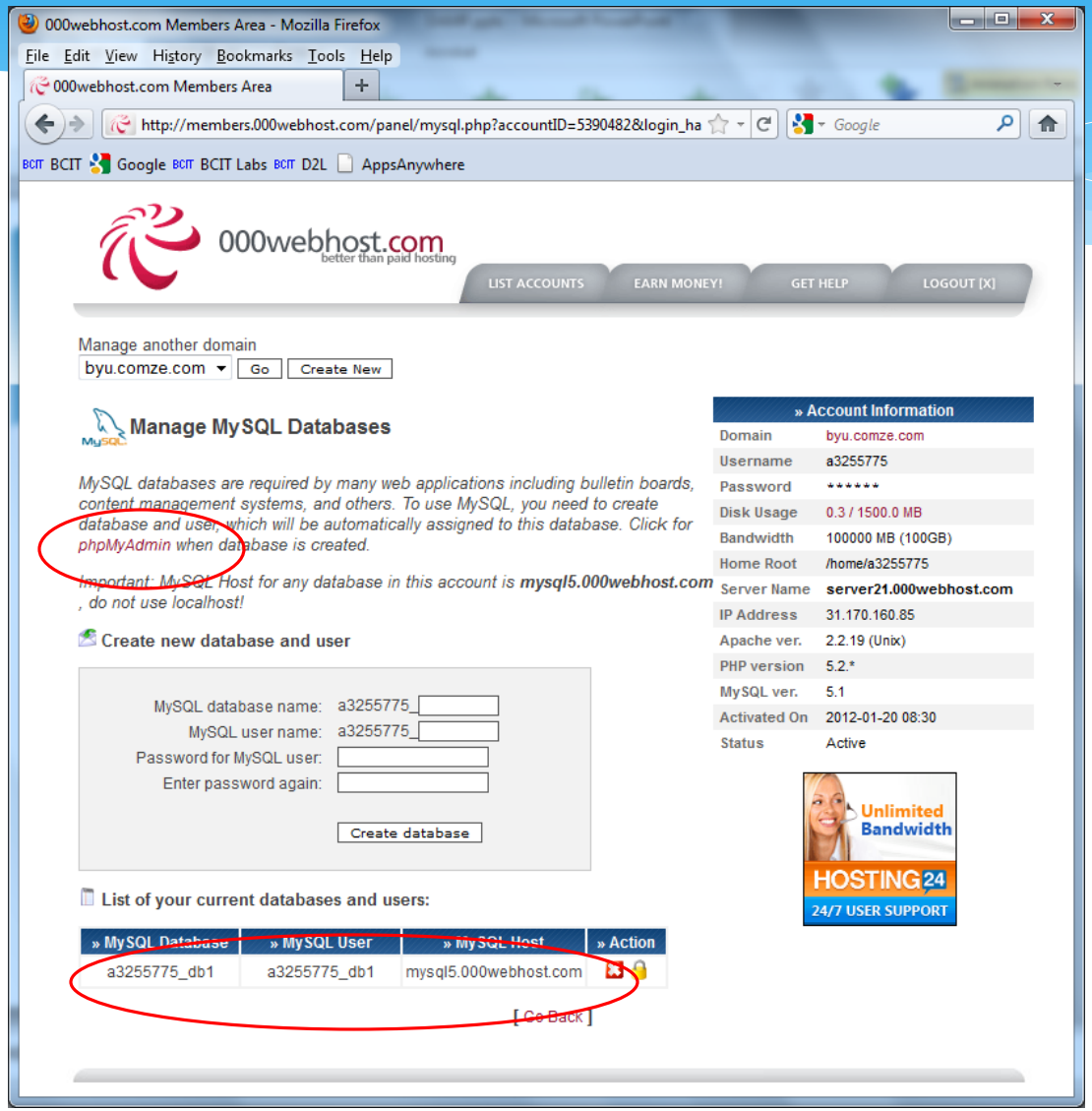
* Host: bcitdevcom.ipagemysql.com
* User id: comp15362014
* Password: 2014-1536
* Database: 1536forum

* (Look in config.php)

MySQL


000webhost.com Members Area - Mozilla Firefox
File Edit View History Bookmarks Tools Help
000webhost.com Members Area
http://members.000webhost.com/cpanel.php?accountID=5390482&login_hash=LC
BCIT BCIT Google BCIT BCIT Labs BCIT D2L AppsAnywhere
* Order our paid hosting service and we will register a personal domain name for you and give unlimited disk space / bandwidth for your website! Get learn more check our upgrade page or go to our premium hosting website www.Hosting24.com directly.
HOSTING 24
24/7 USER SUPPORT
» Email
Manage Email Accounts
WebMail
Email Forwarders
Modify MX Record
More Email Services
» Useful Stuff
1-Click Website Restore
1-Click Database Restore
Website Templates
Website Stats
Stats Tracking Code
» Files
View FTP Details
File Manager
Another File Manager
Disk Space Usage
Backups
» Software / Services
Website Builder
New Website Builder!
Fantastico Autoinstaller
MySQL
phpMyAdmin
View PHP Configuration
» Advanced
Password Protect Directories
Cron Jobs
Redirects
IP Deny Manager
HotLink Protection
» Account Tools
Cleanup / Reload Account
Fix File Ownership
Fix File Permissions
Activity Log
Cancel / Delete Account
000webhost.com ...
2-A (Running) - ...
DAMP.pptx - Micr...

My Databases



phpMyAdmin

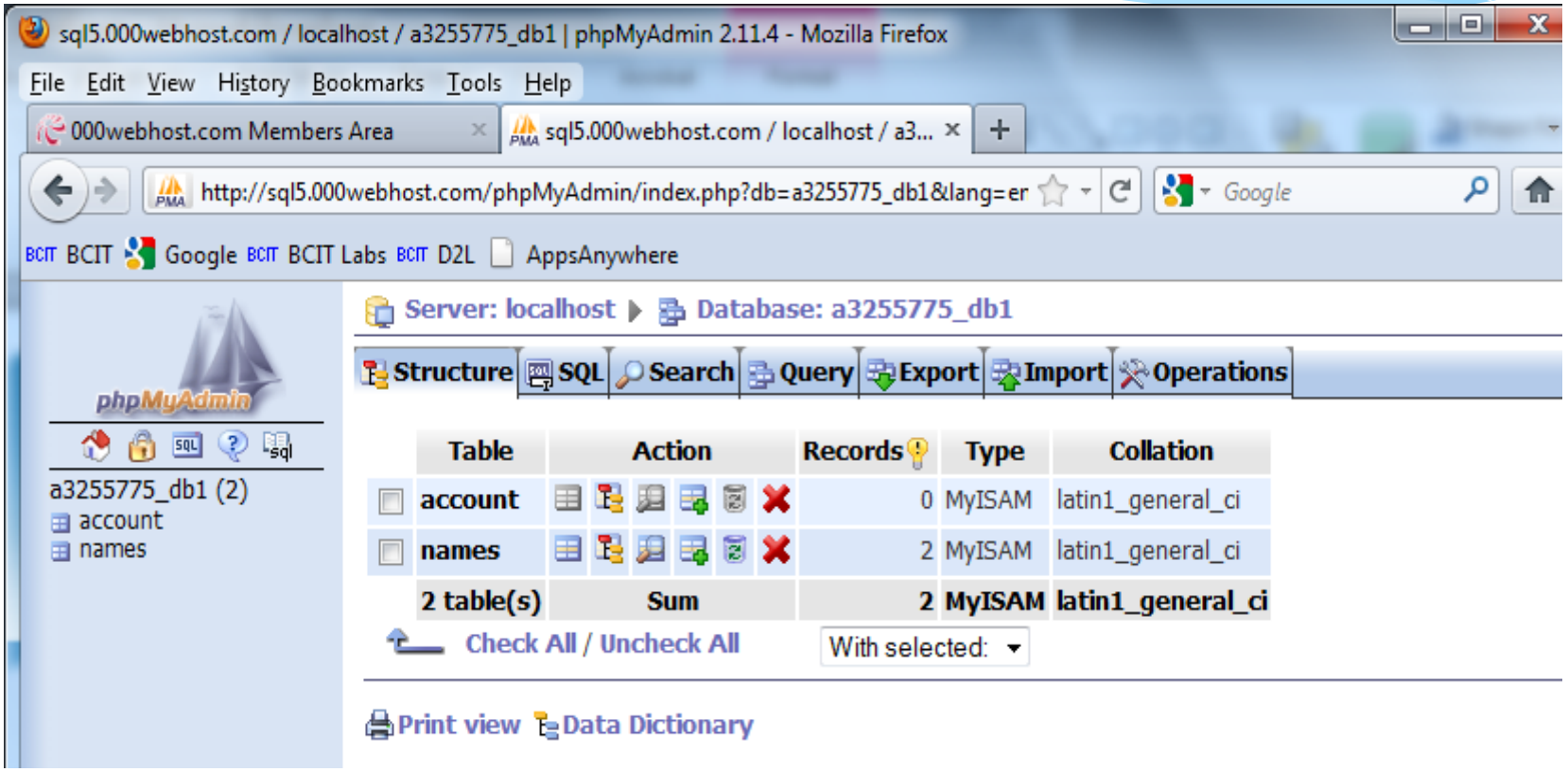
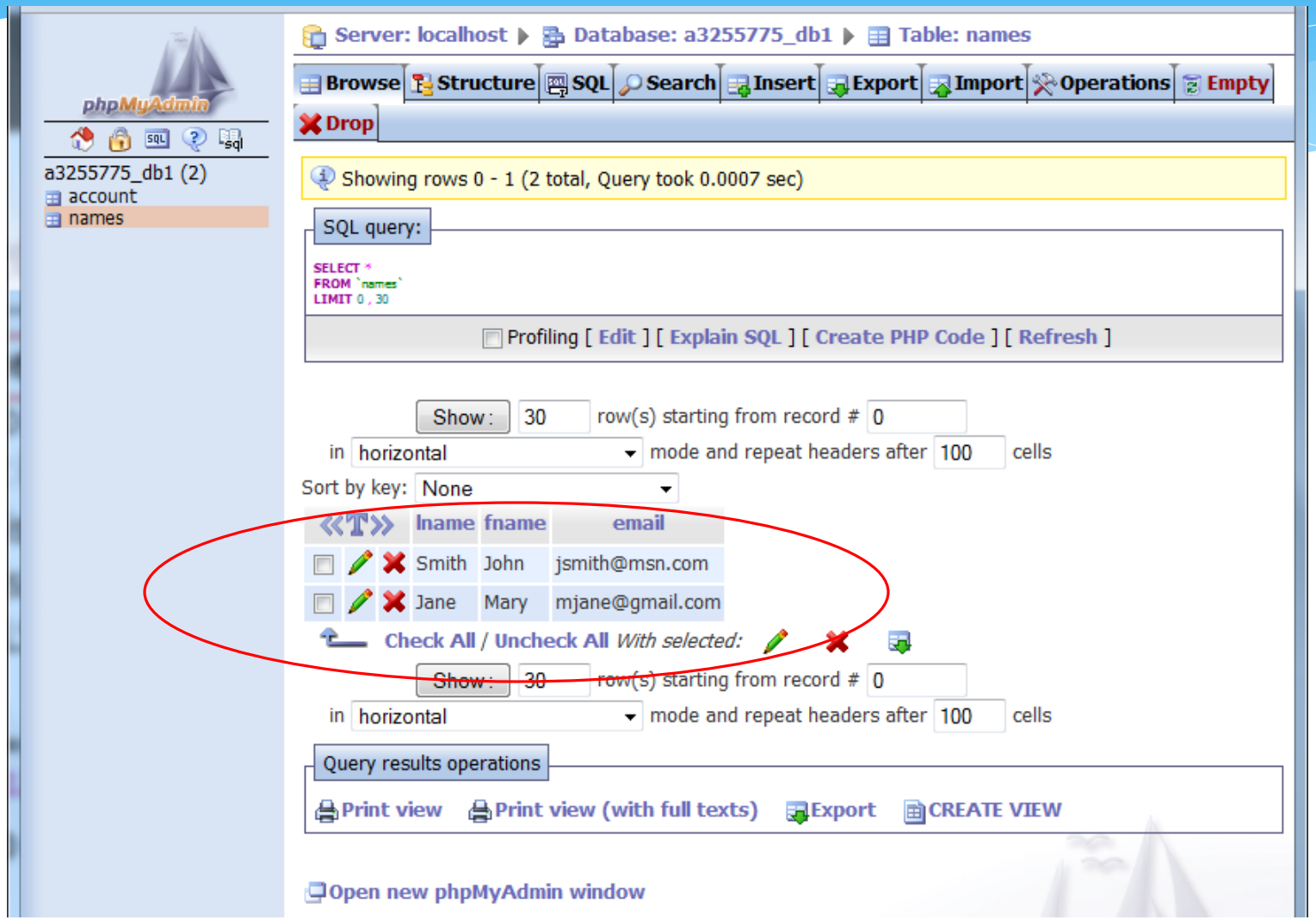

sql5.000webhost.com / localhost / a3255775_db1 | phpMyAdmin 2.11.4 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
000webhost.com Members Area
sql5.000webhost.com / localhost / a3...
http://sql5.000webhost.com/phpMyAdmin/index.php?db=a3255775_db1&lang=er
Google
BCIT BCIT Google BCIT BCIT 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



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",  "bcitsql0")
     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!