

Easier Text Editing (Linux)

```
ssh -X 64.59.233.234
```

```
chadd@db:~> geany &
```

Opens the Geany text editor so you can edit locally and save the files on the remote (db) machine!

Windows

Edit in the Putty Window

```
chadd@db:~> nano
```

```
userAuth.php - /opt/lampp/htdocs_secure/exampleFiles - Geany <@db>
File Edit Search View Document Project Build Tools Help
New Open Save Save All Revert Close Back Forward Compile Build Execute Color Chooser
Symbols Documents query.php session.php showMajors.php showStudentID.php userAuth.php
Variables
  errorMessage [5]
  errorMessage [32]
  password [10]
  result [18]
  sql [13]
  userId [9]
1 <?php
2
3 session_start();
4
5 $errorMessage = '';
6 if (isset($_POST['txtUserId']) && isset($_POST['txtPassword'])) {
7     include 'library/connDB.php';
8
9     $userId = $_POST['txtUserId'];
10    $password = MD5($_POST['txtPassword']);
11
12    // check if the user id and password combination exist in database
13    $sql = "SELECT username
14           FROM users
15           WHERE username = '$userId'
16                 AND password= '$password'";
17
18    $result = mysql_query($sql)
19              or die('Query failed. ' . mysql_error());
20
21    if (mysql_num_rows($result) == 1) {
22        // the user id and password match,
23        // set the session
24        $_SESSION['db_is_logged_in'] = true;
25        // could also track the read/write privileges here.
26
27        include 'library/closeDB.php';
28        // after login we move to the main page
29        header('Location: query.php');
30        exit;
31    } else {
32        $errorMessage = 'Sorry, wrong user id / password';
33    }
34
35    include 'library/closeDB.php';
36 }
37 ?>
38 <html>
39 <head>
40 <title>Basic Login</title>
41 </head>
42
43 <body>
44 <?php
45 if ($errorMessage != '') {
46     ?>
47     <p align="center"><strong><font color="#990000"><?php echo $errorMessage;
48     <?php
49
50
51
52
53
54
55
56
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60
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89
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97
98
99
100
```

Status 16:14:12: This is Geany 0.18.

Compiler 16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/library/closeDB.php opened(1).

Messages 16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/library/connDB.php opened(2).

16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/library/connDBBigDB.php opened(3).

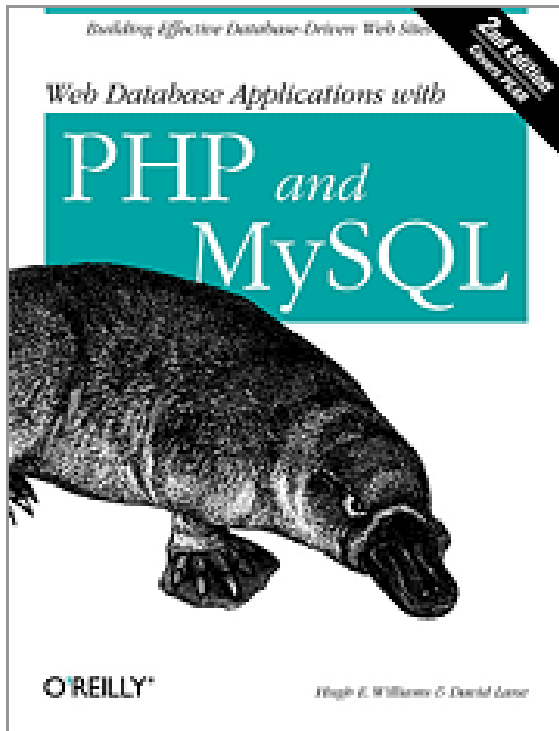
Scribble 16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/binaryData.php opened(4).

16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/Disjoint.php opened(5).

16:14:12: File /opt/lampp/htdocs_secure/exampleFiles/Disjoint.php opened(6).

line: 40 col: 26 sel: 0 INS TAB mode: Win (CRLF) encoding: UTF-8 filetype: PHP scope: unknown

Web accessible Databases PHP



Oct 30, 2009

Safari Online

www.php.net 

http://www.pacificu.edu/library/databases/browse_databases.php?subject_id=13

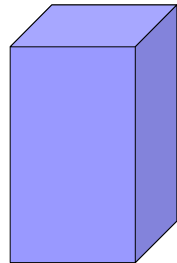
Database Usage Scenario



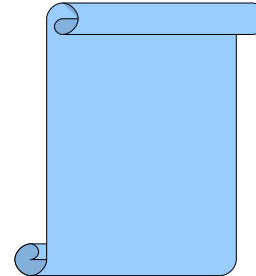
Pac

The PHP is used to generate HTML.

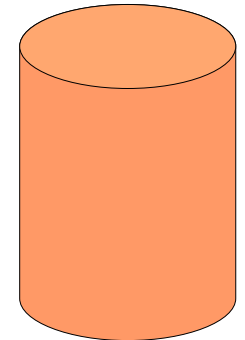
The time now is Wed Jul 11, 2007 1:28 pm
Pacific University Computer Science



Webserver



PHP



The Database



User

Overview

- Data flow
 - html, php, sql, sessions
- HTML
- PHP
 - variables
 - control flow
 - connect to MySQL
 - HTML forms
 - Sessions
 - Authentication
 - binary data

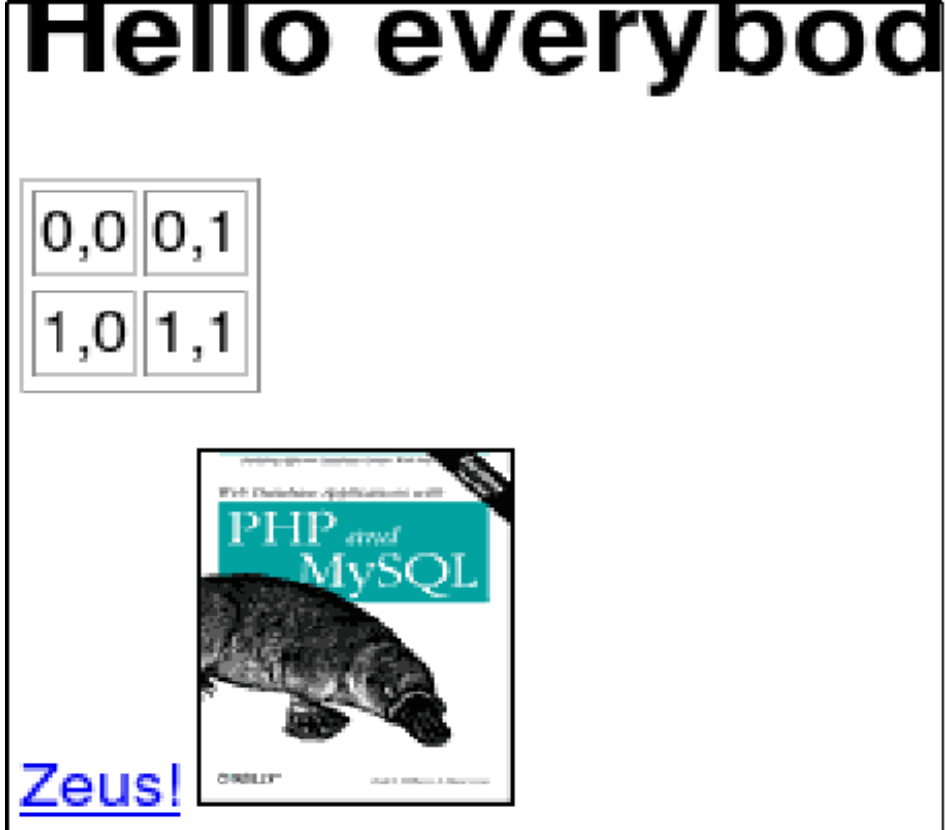
Today's examples will be at:
<https://64.59.233.234/exampleFiles/>

/opt/lampp/htdocs_secure/exampleFiles

You have web space at:
/opt/lampp/htdocs_secure/PUNetID

Simple HTML

```
<html>
  <head>
    <title>The Window Title
  </title>
</head>
<body>
  <h1>Hello everybody!</h1>
  <p>
    <table border=1>
      <tr><td>0,0</td><td>0,1</td></tr>
      <tr><td>1,0</td><td>1,1</td></tr>
    </table>
  <p>
    <a href="http://zeus.cs.pacificu.edu">Zeus!</a>
    
  </p>
</body>
</html>
```



HelloWorld.php

Danger! Quotation marks do not copy and paste well!

```
<html>
  <head>
    <title>The Window Title
  </title>
  </head>
  <body>
```

```
<?php
  // HelloWorld.php
  print "Hello World!";
  print "<H1>Hello World!</H1>";
?>
```

Comment!

```
</body>
</html>
```

The web browser only sees the HTML, not the PHP.
View | Page Source

VariablesIfs.php

```
<body>
  <H1>
  <?php
    $counter = 1; // create variable
    if( $counter == 0)
    {
      print "ZERO";
    }
    else
    {
      print $counter;
    }
  ?>
</H1>
</body>
```

Loops.php

<body>

<?php

```
$counter = 1; // create variable
```

```
while( $counter < 10)
```

```
{
```

```
    print $counter . " " . $counter*2;
```

```
    print "<p>";
```

```
    $counter += 1;
```

```
}
```

```
?>
```

</body>



String concatenation is done with a dot .


```
<table border=1 cellpadding=4>
```

LoopsTable.php

```
<?php
```

```
    $rows = 1; // create variable
```

```
    while( $rows < 10)
```

```
    {
```

```
        print "<tr>";
```

```
        $columns = 1; // create variable
```

```
        while( $columns < 10)
```

```
        {
```

```
            print "<td>";
```

```
            print $rows . " , " . $columns;
```

```
            print "</td>";
```

```
            $columns += 1;
```

```
        }
```

```
        print "</tr>";
```

```
        $rows += 1;
```

```
    }
```

```
?>
```

```
</table>
```

Disjoint.php

```
<body>
```

```
<?php
```

```
    print "<table border=1> <tr>";
```

```
    $columns = 1; // create variable
```

```
    while( $columns < 10)
```

```
    {
```

```
        print "<td>" . $columns . "</td>";
```

```
        $columns += 1;
```

```
    }
```

```
    print "</tr> </table>";
```

```
?>
```

```
Hello out there
```

```
<center> HI!</center>
```

```
<?php
```

```
    print $columns; // retains value from above
```

```
?>
```

```
</body>
```

Connect to MySQL

Put this in library/connDB.php:

```
<?php
// when we include this file we include
// the variable $conn

$conn = mysql_connect("127.0.0.1:3306",
"yourlogin", "yourpassword")
or print "Error connecting to mysql";

mysql_select_db("PUNetID_AssignmentOne");
?>
```

```
$ ls connDB.php
-rwxr-x--- 1 chadd nogroup 21:10 connDB.php
```

Connect to MySQL

Put this in `library/connDBBigDB.php`:

```
<?php
    // when we include this file we include
    // the variable $conn

    $conn = mysql_connect("127.0.0.1:3306",
        "yourlogin", "yourpassword")
    or print "Error connecting to mysql";

    mysql_select_db("PUNetID_DBProject");
?>
```

Close database connection

Put this in `library/closeDB.php`:

```
<?php  
    mysql_close($conn) ;  
?>
```

php skeleton

```
<?php
    session_start();
    include 'library/connDB.php';
?>
```

```
<html>
    <head>
        <title></title>
    </head>
    <body>
        MIX OF PHP AND HTML
    </body>
</html>
```

```
<?php
    include 'library/closeDB.php';
?>
```

```
<body>
```

query.php

```
<?php
```

```
// don't forget to start_session() and  
// include connDB.php at the TOP of the file
```

```
$query = "SELECT CID, LastName, FirstName  
        FROM Customers";
```

```
// run the query
```

```
$result = mysql_query($query);
```

```
// for each row in the result set
```

```
while( $row = mysql_fetch_array($result) )
```

```
{
```

```
    print "<p>{$row['CID']} {$row['FirstName']}";
```

```
    print " {$row['LastName']} </p>";
```

```
}
```

```
?>
```

```
// include closeDB.php at the BOTTOM!
```

```
</body>
```

queryTable.php

Customer ID	Name	Street	Down Payment	Total Payment
1	John Lee	11 Main St	10000	200000
1	John Lee	12 Marvin Gardens	50000	950000
1	John Lee	14 Elm Street	9000	76000
2	Boss Hogg	42a Desert Highway	30300	98000
2	Boss Hogg	43b High St	95000	285000
3	Jane Wayne	44 Apartment Lane	100000	230000
3	Jane Wayne	14 Elm Street	19000	88000
4	Peppermint Patty	43a High St	190000	1200000
4	Peppermint Patty	43b High St	90000	280000

```
SELECT C.CID, LastName, FirstName, DownPayment,  
TotalPayment, StreetAddress  
FROM Customers as C, Offers as O, Parcels as P  
WHERE C.CID=O.CID and P.PID=O.PID
```



```
<body>
```

```
<form method="post" action="showParcels.php">
```

Zone:

```
<select NAME="ZoneID">
```

```
<option VALUE="1">Wilderness</option>
```

```
<option VALUE="2">Agriculture</option>
```

```
<option VALUE="3">Commercial</option>
```

```
<option VALUE="4">Residential</option>
```

```
</select>
```

Street:

```
<input TYPE="text" NAME="Street">
```

```
<input TYPE="submit" NAME="Request" VALUE="Go" />
```

```
</form>
```

```
</body>
```

Zone: Street:

- Wilderness
- Agriculture
- Commercial
- Residential

showParcels.php

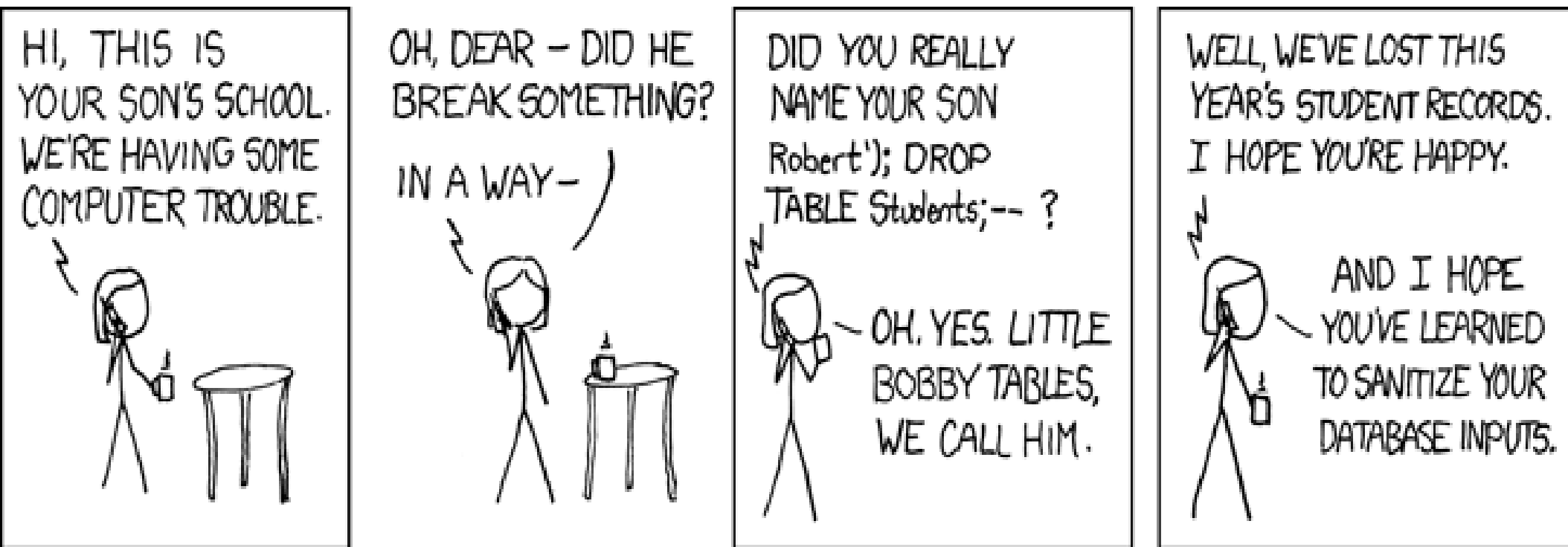
```
<?php
```

```
// this could easily be an insert SQL statement
```

```
$query = "SELECT StreetAddress, City, Zip, State  
from Parcels where ZType = "  
mysql_real_escape_string($_POST['ZoneID']) .  
" and StreetAddress LIKE '%'" .  
mysql_real_escape_string($_POST['Street']) .  
"% ' " ;
```

```
print "The Query we ran: $query <br>";  
$result = mysql_query($query);  
while($row = mysql_fetch_array($result))  
{  
    print "<p>$row[0] $row[1] $row[2] $row[3]</p>";  
}
```

Why we use `mysql_real_escape_string()`



```
SELECT username FROM users WHERE username = '$userId';
```

```
$userId = ' bob '); Drop Table Students; --"
```

```
mysql_real_escape_string(): $userId = ' bob\\' );  
Drop Table Students; --"
```

session.php

```
<?php
    session_start();
    $_SESSION['PID']=2;
    header('Location: showParcelID.php');
?>
```

```
<?php          // showParcelID.php
    session_start();
    print $_SESSION['PID'];
?>
```

Binary Data

```
CREATE TABLE pictures (  
  `PicID` int(11) NOT NULL auto_increment,  
  `image` mediumblob NOT NULL,  
  `type` varchar(255) NOT NULL,  
  PRIMARY KEY (`PicID`)) ENGINE=InnoDB;
```

For binary data, we need to track the type of data we have stored.

Usually the MIME type.

image/gif

image/png

binaryDataInput.php

```
<body>
```

```
<form method="post"
  action=binaryDataInput.php
  enctype="multipart/form-data">
```

```
<input type="hidden" name="MAX_FILE_SIZE"
  value="1000000">
```

```
<br>File to upload/store in database:<br>
```

```
<input type="file" name="datafile" size="40">
```

```
<p>
```

```
<input type="submit" name="submit"
  value="submit">
```

```
</form>
```

File to upload/store in database:


```
</body>
```

<?php

binaryDataInput.php

```
if (isset($_POST['submit']) ) {
    $filename = $_FILES['datafile']['tmp_name'];
    $filesize = $_FILES['datafile']['size'];
    $filetype = $_FILES['datafile']['type'];
    $data = mysql_real_escape_string(
        fread( fopen($filename, "r"),
            filesize($filesize) ));
    $result=mysql_query("INSERT INTO pictures ".
        "VALUES (null, '$data' , '$filetype')")
        or print mysql_error();

    print "We just added PicID:".mysql_insert_id();
    print "{$filetype} {$_FILES['datafile']['name']}";
}

?>
```

<http://www.phpbuilder.com/columns/florian19991014.php3?page=2>

```
<?php
```

getData.php

```
if( isset($_GET['id']) ) {  
    include 'library/connDB.php';  
    $id = mysql_real_escape_string($_GET['id']);  
  
    $query = "select image, type from pictures where  
        PicID=$id";  
  
    $result = mysql_query($query);  
  
    $data = mysql_result($result,0,"image");  
    $type = mysql_result($result,0,"type");  
  
    Header( "Content-type: $type" );  
    print $data;  
    include 'library/closeDB.php';  
}else{  
    print "FILE NOT FOUND";  
}  
  
?>
```


showImage.html

<https://64.59.233.234/exampleFiles/getData.php?id=24>

```
<html>
  <body>
    Image: 
  </body>
</html>
```

```
<html>
  <body>
    Image: 
  </body>
</html>
```

User Authentication

- Store usernames and passwords in the DB
 - Don't make a MySQL account for every user!

```
create table users (username varbinary(25),  
                    passwd varbinary(16),  
                    Primary Key (username));
```

```
insert into users Values ('bob', MD5('bobsPassword'));
```

- We will use MD5() to securely store our password
 - creates a 16 byte hash
- Form and PHP in the same file

User Id

Password

```
if (isset($_POST['txtUserID'] &&
isset($_POST['txtPassword']))
{
    $userID = addslashes($_POST['txtUserId']);
    $passwd = MD5($_POST['txtPassword']);

    // query the users table in the db.
    $sql = " SELECT username
            FROM users
            WHERE username = '$userID'
            AND password= '$passwd'";

    $result = mysql_query($sql);
    if (mysql_num_rows($result) == 1) {
        // redirect using header()
    }
}
```

userAuth.php

```
<body>
```

```
<form method="post" name="frmLogin" action=  
"<?php echo $_SERVER['PHP_SELF'] ?>">
```

Username:

```
<input name="txtUserId" type="text" >
```

Password:

```
<input name="txtPassword" type="password">
```

```
<input type="submit" name="btnLogin" value="Login">
```

```
</form>
```

```
</body>
```

Practice Exercise

- Add an Editor field to the user table
 - only allow people marked as editors to insert data in the queries below
- Build a webpage to create a new user
- Build a webpage that allows a user to enter a new Student
 - provide a drop down box listing all majors
- Build a webpage that allows the user to search for Students that received a specific final grade
 - provide a drop down box listing grades (A,A-,B+,B,...)