Storing Images in Database

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Synopsis

Learn how to store images from a HTML form into a database and then display those same images.

Overview

Hi, today we'll talk about how to store image files in a database. Storing images in database is easy and has some advantages. Use this method only if you think this is the best solution that you come up with on your project. I've created a zip file for ever file that you need to understand this tutorial. Download it (http://codewalkers.com/mirror/im2db.zip) here.

Understanding Upload Process

Before we start building our application, I think it's a good idea for us to understand how is the upload process working. First thing we should remember that in the html forms for uploading files, we should type enctype="multipart/form-data". With that property of a form, we told the browser to prepare the given file to be uploaded to the server to be processed.

Next, when web user selects a file on his local computer or network drive then he clicks the submit button, the file is uploaded to the temporary directory on the server with a random name. Now what the script does is grab that file from temporary directory and put it anywhere you want. You can use copy() or move_uploaded_file() or any other function that you would like. On this sample that we will discuss here we are going to put that file into a database.

Database Preparation

First, you should to prepare your database to receive and save the images. On this example, I assume you use MySQL as the database engine. Next time you can use another database than this one, but the logic is still the same. Here is the table structure:

```
CREATE TABLE image (
  image_id int(10) unsigned NOT NULL auto_increment,
  image_type varchar(50) NOT NULL default '',
  image longblob NOT NULL,
  image_size bigint(20) NOT NULL default '0',
  image_name varchar(255) NOT NULL default '',
  image_date datetime NOT NULL default '0000-00-00 00:00:00',
  UNIQUE KEY image_id (image_id)
);
```

Start Coding

After building the table successfully, let's start doing some code. These lines below are sample of code to store image files to database.

```
<?php
```

```
// index.php - by Hermawan Haryanto <hermawan@dmonster.com>
// Example PHP Script, demonstrating Storing Image in Database

// Detailed Information can be found at http://www.codewalkers.com

// database connection
$conn = mysql_connect("localhost", "username", "password")
  OR DIE (mysql_error());
@mysql_select_db ("database", $conn) OR DIE (mysql_error());

// Do this process if user has browse the
// file and click the submit button
if ($_FILES) {
  $image_types = Array ("image/bmp",
                        "image/jpeg",
                        "image/pjpeg",
                        "image/gif",
                        "image/x-png");
  if (is_uploaded_file ($_FILES[“userfile”][“tmp_name”])) {
    $userfile= addslashes (fread
                (fopen ($_FILES["userfile"]["tmp_name"], "r"
),
                filesize ($_FILES["userfile"]["tmp_name"])));
    $file_name = $_FILES["userfile"]["name"];
    $file_size = $_FILES["userfile"]["size"];
    $file_type = $_FILES["userfile"]["type"];

    if (in_array (strtolower ($file_type), $image_types)) {
      $sql = "INSERT INTO image "
             .
"(image_type, image, image_size, image_name, image_date) ";
      $sql.= "VALUES (";
      $sql.= "'{$file_type}', '{$userfile}', '{$file_size}', "
             . "'{$file_name}', NOW())";
      @mysql_query ($sql, $conn);
      Header("Location:".$_SERVER["PHP_SELF"]);
      exit();
    }
  }
}

// Do this process of user has click
// a file name to view or remove
if ($_GET) {
  $iid = $_GET["iid"];
  $act = $_GET["act"];
  switch ($act) {
    case rem:
      $sql = "DELETE FROM image WHERE image_id=$iid";
      @mysql_query ($sql, $conn);
      Header("Location:./index.php");
      exit();
      break;
```

```
    default:
      print "<img src=\"image.php?iid=$iid\">";
      break;
  }
}

?>
<html>
<head>
<title>Storing Images in DB</title>
</head>
<body>
<form method="post" enctype="multipart/form-data">
Select Image File:
<input type="file" name="userfile"  size="40">
<input type="submit" value="submit">
</form>
<?php
  $sql = "SELECT * FROM image ORDER BY image_date DESC";
  $result = mysql_query ($sql, $conn);
  if (mysql_num_rows($result)>0) {
    while ($row = mysql_fetch_array($result, MYSQL_ASSOC)) {
      $i++;
      $str .= $i.". ";
      $str .= "<a href=\"index.php?iid=".$row["image_id"].
"\">"
           . $row["image_name"]."</a> ";
      $str .= "[".$row["image_date"]."] ";
      $str .= "[".$row["image_size"]."] ";
      $str .= "[<a href=\"index.php?act=rem&amp;iid=".$row[
"image_id"]
           . "\">Remove</a>]<br>";
    }
    print $str;
  }
?>
</body>
</html>
```

Upload that file, and when you execute the index.php file you'll see a simple form. With that form you'll be able to select the image file you wish to upload, then click submit. The file is uploaded to database and then you'll have a list on the bottom of the form. That's the list of files which have been uploaded to your database.

Viewing the Images

Now, after you upload your image to the database, what's next? Of course we need a way to display it to users. Here is the script to retrieve image information from database then displaying to the users.

```
<?php
```

```
// image.php - by Hermawan Haryanto <hermawan@dmonster.com>
// Example PHP Script, demonstrating Storing Image in Database

// Detailed Information can be found at http://www.codewalkers.com

// database connection
$conn = mysql_connect("localhost", "user", "password")
  OR DIE (mysql_error());
@mysql_select_db ("hermawan", $conn) OR DIE (mysql_error());
$sql= "SELECT * FROM image WHERE image_id=".$_GET["iid"];
$result = mysql_query ($sql, $conn);
if (mysql_num_rows ($result)>0) {
  $row = @mysql_fetch_array ($result);
  $image_type = $row["image_type"];
  $image = $row["image"];
  Header ("Content-type: $image_type");
  print $image;
}
?>
```

Example, you have image with ID = 3, then you should call that file using this method <img src="image.php?iid=3">. It's simple right? On the index.php, I've been add a link to display the page on the file, which print out an HTML tag to display the image.php file, take a re-look at index.php.

Conclusion

After viewing this tutorial and having tested on your server, I hope you can modify this method and making your own function, or even classes. Storing images is the only sample here, but you can store almost any file you have, even a binary or application file. Go on and give it a shot, let me know your success or error report.

About the Author

Hermawan Haryanto is a Web Application Developer with over seven years of Website development experience; provide web application development services internationally. Holds the position of IT Director on his own small and fast growth company, (http://dMonster.com) dMonster.com, where he is also the primary Web Developer. His knowledge of Web Application extends into PHP, MySQL, ASP, SQL Server, PostgreSQL