

PHP and MVC Architecture

Build a better website

Class 2: Models and Databases
Creating a data structure



How do databases work?

Relational Data Structure

Bloggers	
username	email
izzyjohnston	izzy@girldevelopit.com
sarajo	sara@girldevelopit.com

Blog Posts	
title	text
Hello World	text of blog post.....
Good to be Here	Text of a different blog post



How do databases work?

Relational Data Structure

Bloggers		
id	username	email
1	izzyjohnston	izzy@girldevelopit.com
2	sarajo	sara@girldevelopit.com

Blog Posts			
id	title	text	blogger_id
1	Hello World	text of blog post.....	2
2	Good to be Here	Text of a different blog post	1



How do databases work?

MySQL and CRUD

Query Based Language

Ask the database to get data or add data

All databases have a CRUD structure

Create

Add completely new data to database

Read

Get data from database

Can be about one table, many tables, or according to certain criteria

Update

Change existing data in database

Delete

Completely delete data from database



PHP and MySQL

Connecting to the database: config/config.php

```
<?php
define('DATABASE_NAME', 'gdi_php_mvc');
define('DATABASE_USER', 'root');
define('DATABASE_PASSWORD', 'root');
        // '' for PCs
define('DATABASE_HOST', 'localhost');
?>
```



PHP and MySQL

Connecting to the database: config/db.php

```
<?php
class DB {
    public static function connect() {
        $connection_to_database=mysql_connect(DATABASE_HOST,
        DATABASE_USER, DATABASE_PASSWORD);
        if ($connection_to_database) {
            if(mysql_select_db(DATABASE_NAME, $connection_to_database)) {
                return $connection_to_database;
            }
            else{
                return false;
            }
        }
        else{
            return false;
        }
    }
}
?>
```



PHP and MySQL

Reading from the database: config/model.php

```
public static function select($sql) {  
    if(DB::connect()) {  
        $rows = array();  
        $results_from_database = mysql_query($sql, DB::connect());  
        if($results_from_database) {  
            while ( $row_from_database =  
mysql_fetch_assoc($results_from_database) ) {  
                $rows[] = $row_from_database;  
            }  
        }  
        if(count($rows)>0) {  
            return $rows;  
        }  
        else {  
            return false;  
        }  
    }  
    else return false;  
}
```



PHP and MySQL

Changing data in the database: config/model.php

```
public static function insert($sql) {  
    if(DB::connect()) {  
        $results_from_database = mysql_query($sql, DB::connect());  
        if (!$results_from_database) {  
            return 'Error adding submitted data: ' . mysql_error();  
        }  
        return true;  
    }  
    else return false;  
}
```



PHP and MySQL

Cleaning data for the database: config/model.php

```
public static function cleanData($fields) {  
    if(DB::connect()) {  
        foreach ($fields as &$field) {  
            $field = mysql_real_escape_string($field, DB::connect());  
        }  
        return $fields;  
    }  
    else return false;  
}
```



PHP and MySQL

Building SQL queries: models/post.php

READ from a table

```
public static function getAll () {  
    $sql = 'SELECT * FROM posts ORDER BY date_created DESC';  
    $results = Model::select($sql);  
    return $results;  
}
```

```
public static function getOne($id) {  
    $sql = 'SELECT * FROM posts WHERE id = ' . $id . ' LIMIT 1';  
    $results = Model::select($sql);  
    if($results) {  
        return $results[0];  
    }  
    else{  
        return false;  
    }  
}
```



PHP and MySQL

Building SQL queries: models/post.php

Create new data

```
public static function create ($fields) {  
    $date = date ("Y-m-d H:i:s");  
    $fields = Model::cleanData($fields);  
    $sql = 'INSERT INTO posts (title, text, user_id, date_created)  
        VALUES ("' . $fields['title'] . '", "' .  
        $fields['text'] . '", ' . $fields['user_id'] . ', "' .  
        $date . '")';  
    $results = Model::insert($sql);  
    return $results;  
}
```



PHP and MySQL

Building SQL queries: models/post.php

Update data

```
public static function edit ($fields, $id) {  
    $fields = Model::cleanData($fields);  
    $sql = 'UPDATE posts SET title = "' . $fields['title'] . '" ,  
          text = "' . $fields['text'] . '" WHERE id = ' . $id;  
    $results = Model::update($sql);  
    return $results;  
}
```



PHP and MySQL

Building SQL queries: models/post.php

Delete data

```
public static function destroy ($id) {  
    $sql = 'DELETE FROM posts WHERE id = ' . $id;  
    $results = Model::delete($sql);  
    return $results;  
}
```



PHP and HTML Forms

HTML Forms -- views/posts/list.php

New Post Form

```
<div id = "new-post" class="add">
  <img class="icon" src='/public/images/blog.png' />
  <div class="button-text"> Add new blog post</div>
</div>
<h2>Blog Posts</h2>
  <div id= "add-new">
    <form action="<?php echo htmlentities($_SERVER['PHP_SELF']);?>"
method="post">
      <input type="text" placeholder="Blog Title" name ="title"/>
      <textarea placeholder="Enter blog post content" name =
"text"></textarea>
      <input type = "hidden" value ="true" name="create_post"/>
      <button type = "submit" value="Submit" class="add">
        <img class="icon" src='/public/images/add.png' />
        <div class="button-text"> Submit</div>
      </button>
    </form>
  </div>
```



PHP and HTML Forms

HTML Forms -- views/posts/list.php

Edit Post Form

```
<div class= "edit-current">
    <form action="<?php echo htmlentities($_SERVER['PHP_SELF']); ?>"
method="post">
        <input type="text" placeholder="Blog Title" name ="title" value ="<?
php echo $post['title']; ?>" />
        <textarea placeholder="Enter blog post content" name = "text"><?php
echo $post['text']; ?></textarea>
        <input type = "hidden" value =<?php echo $post['user_id']?> name
="user_id"/>
        <input type = "hidden" value ="true" name="update_post"/>
        <input type = "hidden" value =<?php echo $post['id']?> name ="id"/>
        <button type = "submit" value="Submit" class="edit">
            <img class="icon" src='/public/images/pencil.png' />
            <div class="button-text"> Submit</div>
        </button>
    </form>
</div>
```



PHP and HTML Forms

HTML Forms -- views/posts/list.php

Delete Post Form

```
<div class= "delete-current">
  <p class="warning">Are you sure you want to delete this post?</p>
  <form action="<?php echo htmlentities($_SERVER['PHP_SELF']); ?>"
method="post">
    <input type = "hidden" value ="true" name="delete_post"/>
    <input type = "hidden" value =<?php echo $post['id']?> name ="id"/>
    <input type = "hidden" value =<?php echo $post['user_id']?> name
="user_id"/>
    <button type = "submit" value="Submit" class="delete">
      <img class="icon" src='/public/images/delete.png'/>
      <div class="button-text"> Delete</div>
    </button>
  </form>
</div>
```



PHP and HTML Forms

HTML Forms -- views/posts/list.php

Adding the buttons

```
<div class ="edit-post edit">  
  <img class="icon" src='/public/images/pencil.png' />  
  <div class="button-text"> Edit blog post</div>  
</div>
```

```
<div class = "delete-post delete">  
  <img class="icon" src='/public/images/delete.png' />  
  <div class="button-text"> Delete blog post</div>  
</div>
```



Coming Up!

Models and Databases

How to build a controller

How to harness the power of related data

How to check for complete forms





Questions?

