CakePHP

A PHP Framework

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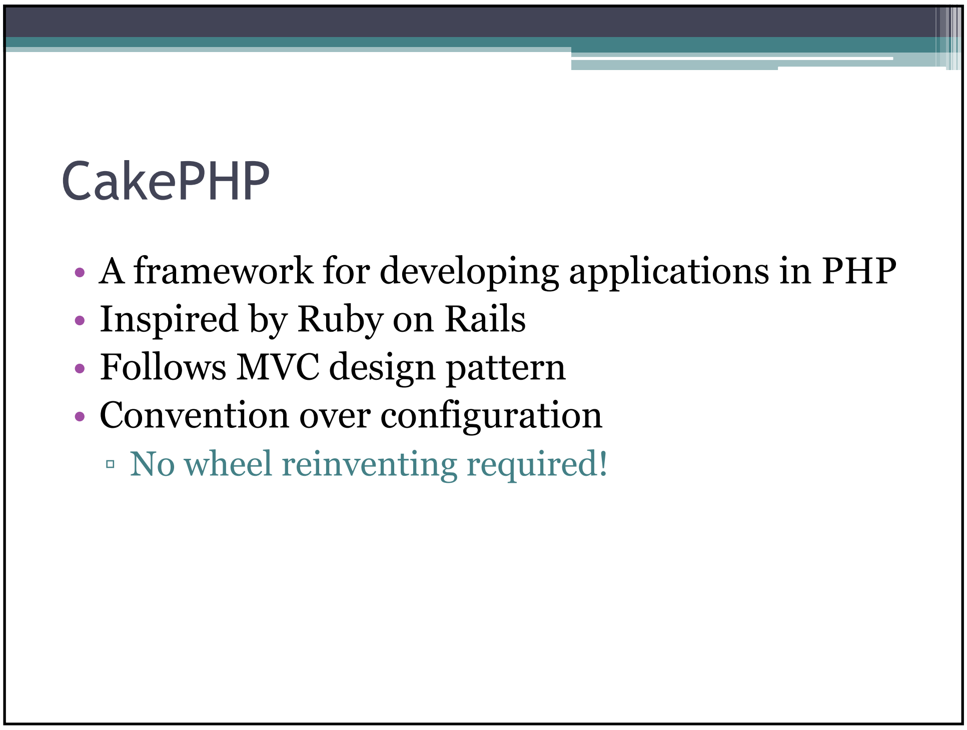
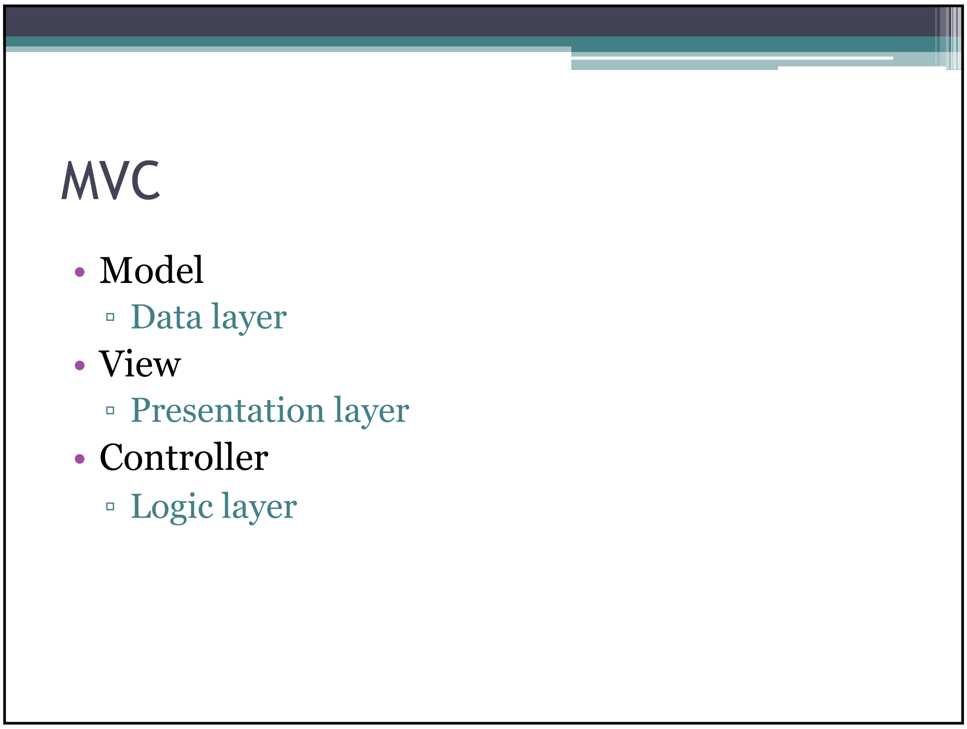


CakePHP

- A framework for developing applications in PHP
- Inspired by Ruby on Rails
- Follows MVC design pattern
- Convention over configuration
  - No wheel reinventing required!

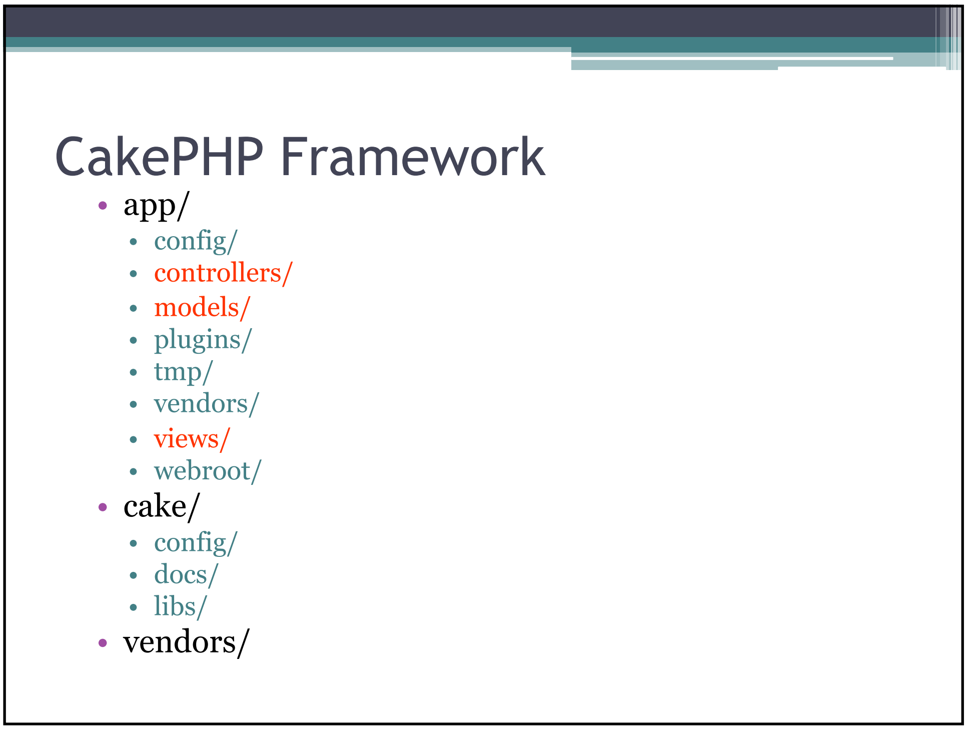
2



MVC

- Model
  - Data layer
- View
  - Presentation layer
- Controller
  - Logic layer

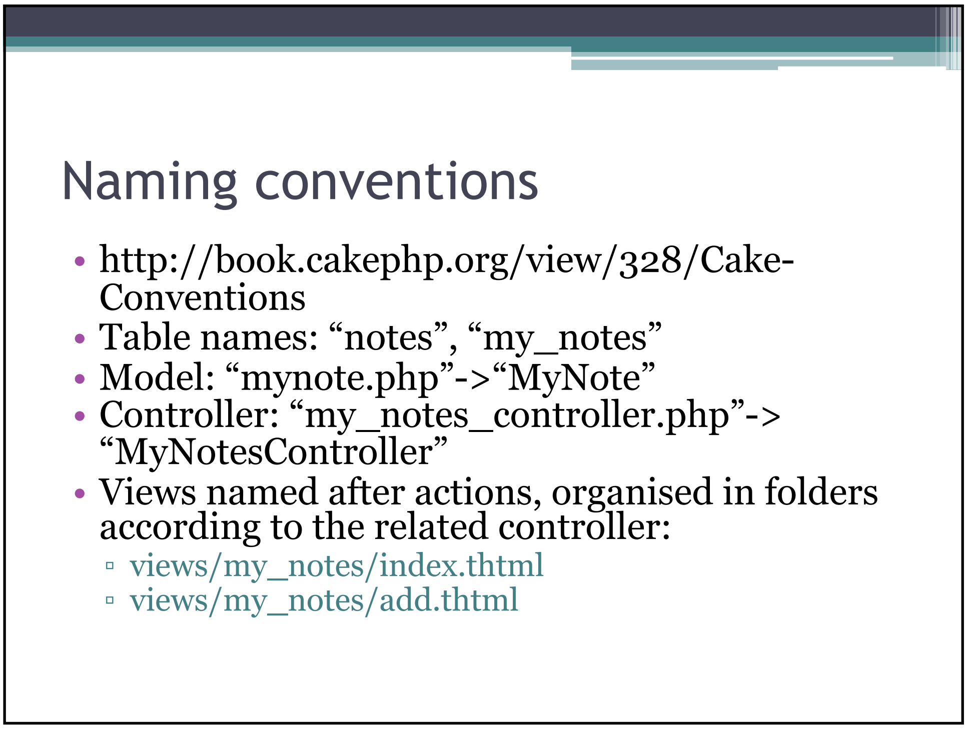
3



CakePHP Framework

- app/
  - config/
  - controllers/
  - models/
  - plugins/
  - tmp/
  - vendors/
  - views/
  - webroot/
- cake/
  - config/
  - docs/
  - libs/
- vendors/

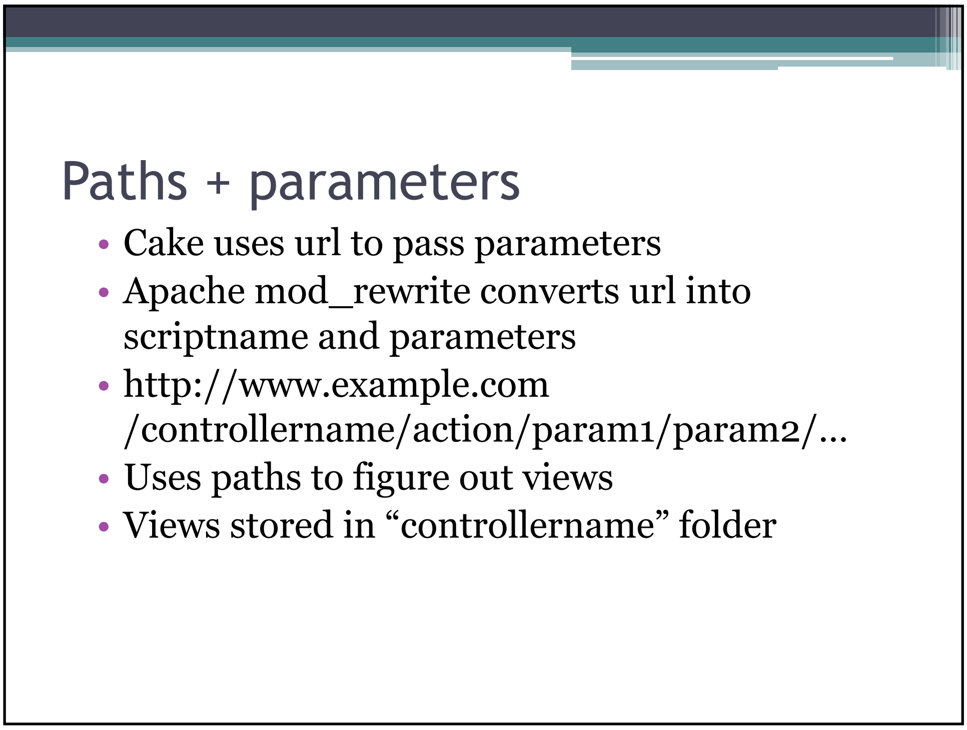
4



Naming conventions

- http://book.cakephp.org/view/328/Cake-Conventions
- Table names: “notes”, “my_notes”
- Model: “mynote.php”->“MyNote”
- Controller: “my_notes_controller.php”-> “MyNotesController”
- Views named after actions, organised in folders according to the related controller:
  - views/my_notes/index.thtml
  - views/my_notes/add.thtml

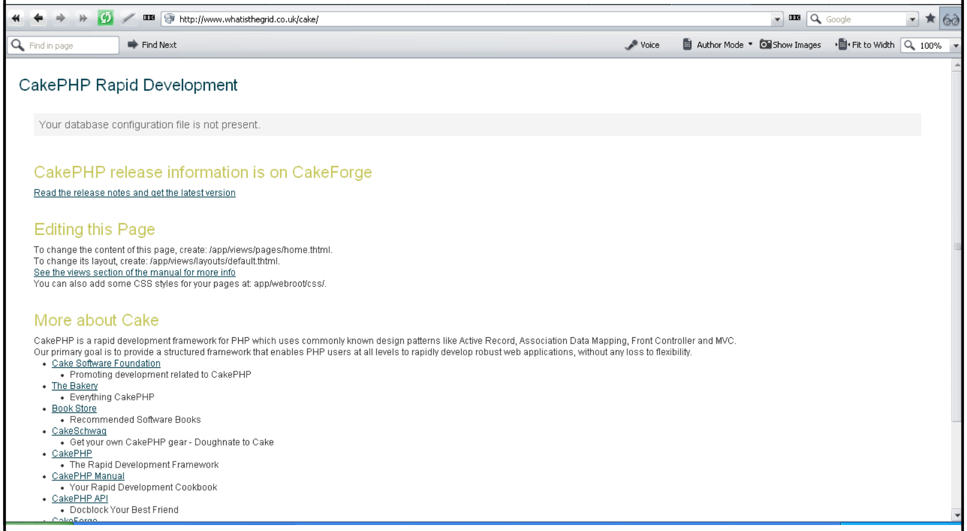
5



Paths + parameters

- Cake uses url to pass parameters
- Apache mod_rewrite converts url into scriptname and parameters
- http://www.example.com /controllername/action/param1/param2/…
- Uses paths to figure out views
- Views stored in “controllername” folder

6



CakePHP Rapid Development

Your database configuration file is not present.

CakePHP release information is on CakeForge

Read the release notes and get the latest version

Editing this Page

To change the content of this page, create: /app/views/pages/home.thtml.
To change its layout, create: /app/views/layouts/default.thtml.
See the views section of the manual for more info
You can also add some CSS styles for your pages at: app/webroot/css/.

More about Cake

CakePHP is a rapid development framework for PHP which uses commonly known design patterns like Active Record, Association Data Mapping, Front Controller and MVC.
Our primary goal is to provide a structured framework that enables PHP users at all levels to rapidly develop robust web applications, without any loss to flexibility.

- Cake Software Foundation
  - Promoting development related to CakePHP
- The Bakery
  - Everything CakePHP
- Book Store
  - Recommended Software Books
- CakeSchwag
  - Get your own CakePHP gear - Doughnate to Cake
- CakePHP
  - The Rapid Development Framework
- CakePHP Manual
  - Your Rapid Development Cookbook
- CakePHP API
  - Docblock Your Best Friend
- CakeForge

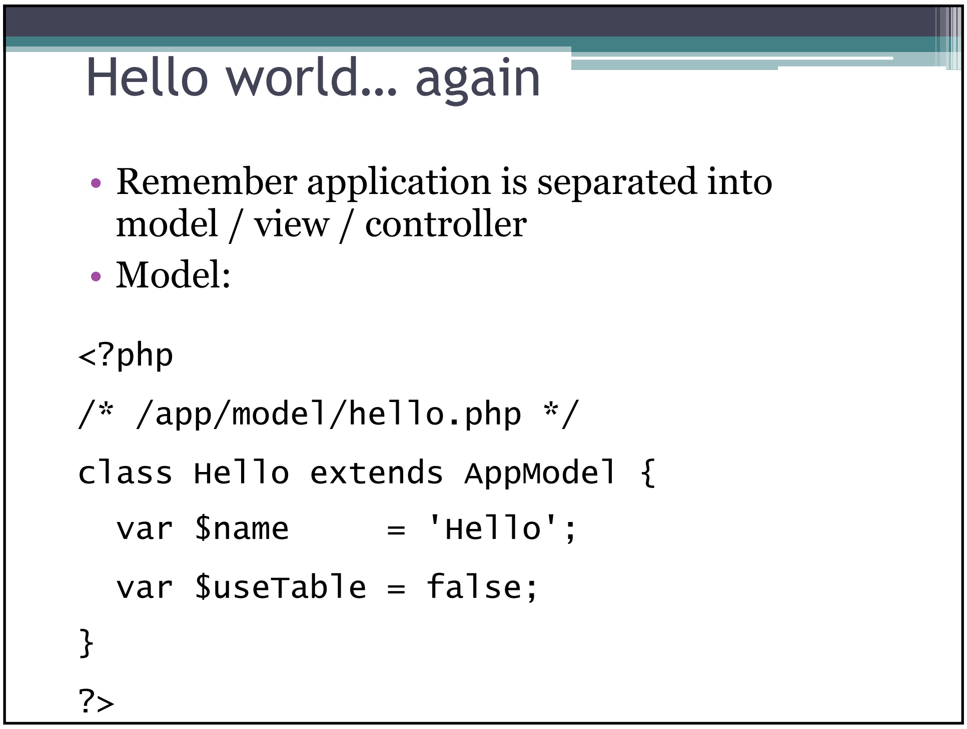
7

OOP in PHP

- Limited support in PHP <5
- Much better support in PHP >=5
- Simpler than Java OOP

```
class SomeClass {
  function func() {
      ….
  }
}
SomeClass s = new someClass();
s->func();
```

8

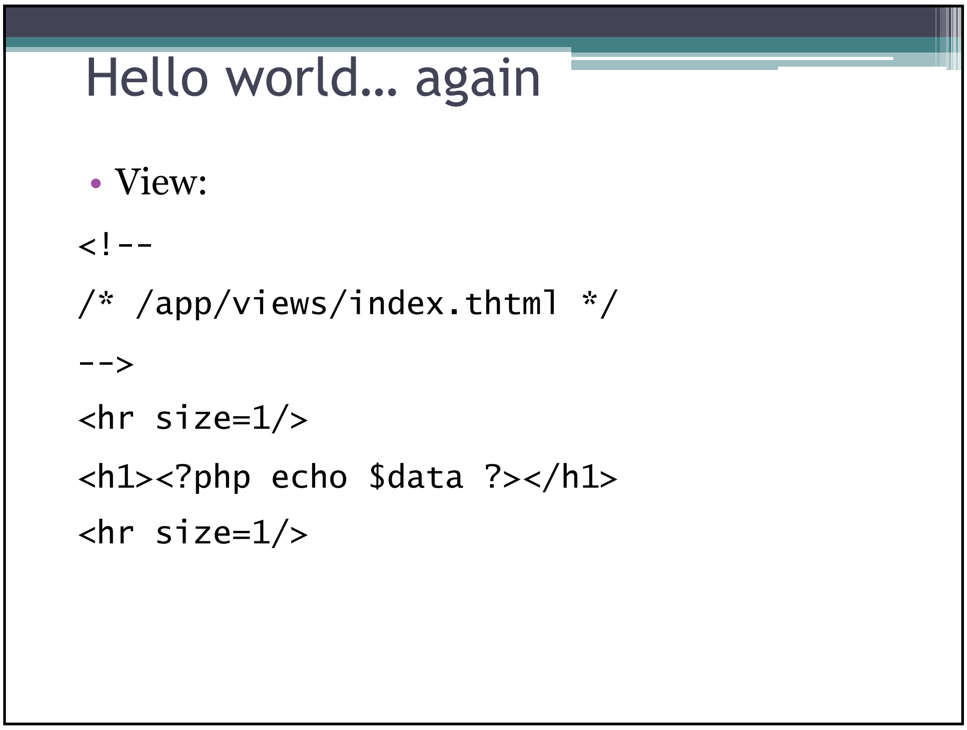


Hello world… again

- Remember application is separated into model / view / controller
- Model:

```
<?php
/* /app/model/hello.php */
class Hello extends AppModel {
  var $name     = 'Hello';
  var $useTable = false;
}
?>
```

9



Hello world… again

- View:

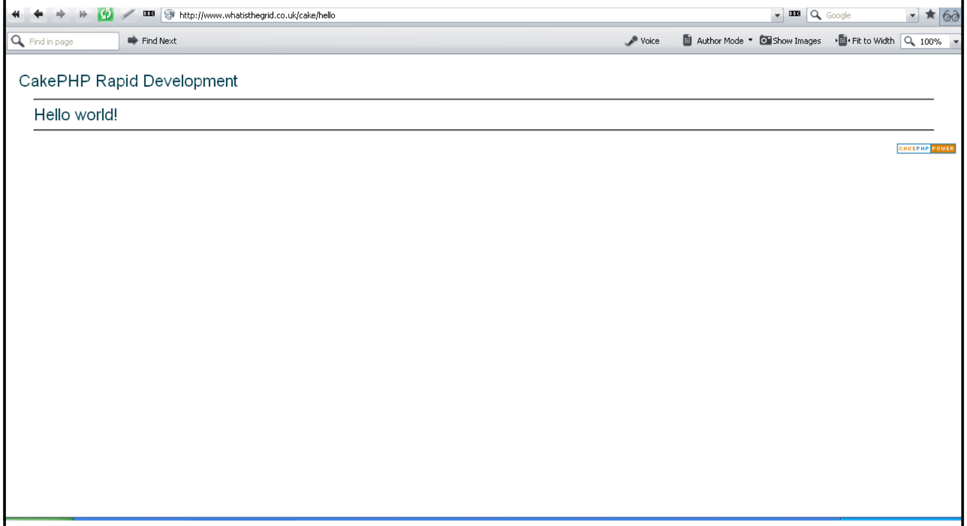
```
<!--
/* /app/views/index.thtml */
-->
<hr size=1/>
<h1><?php echo $data ?></h1>
<hr size=1/>
```

10

- Controller:

```
<?php
/* app/controller/hello_controller.php */
class HelloController extends AppController {
  var $name = "Hello";
  var $uses = 'Hello';
  function index() {
    $data = 'Hello world!';
    $this->set('data', $data);
  }
}
?>
```

11

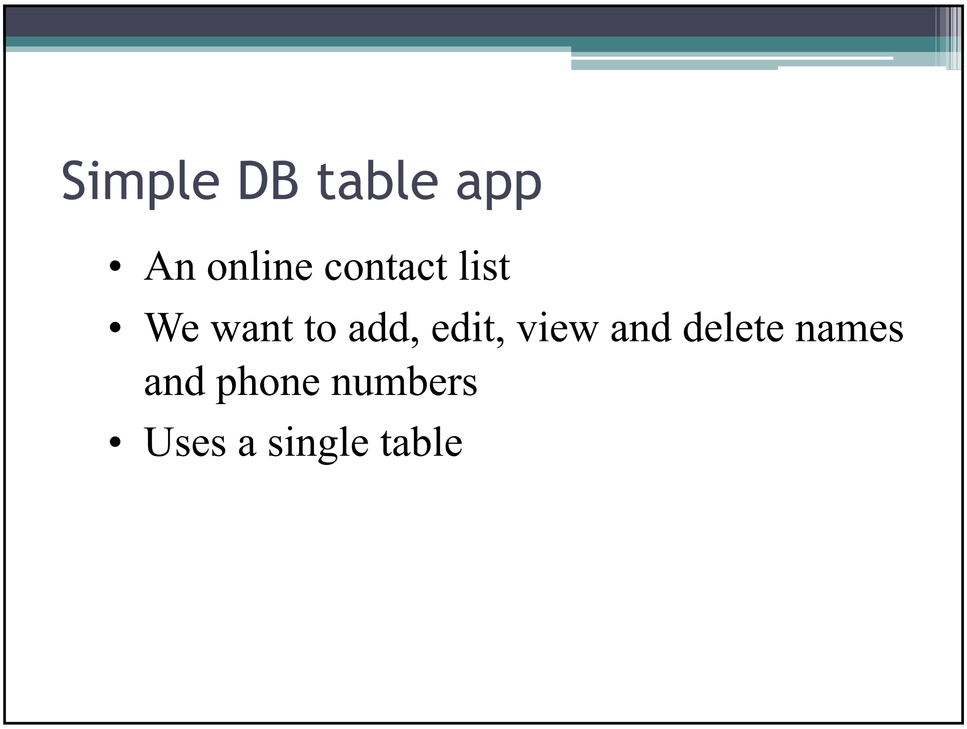


http://www.whatisthegrid.co.uk/cake/hello

CakePHP Rapid Development

Hello world!

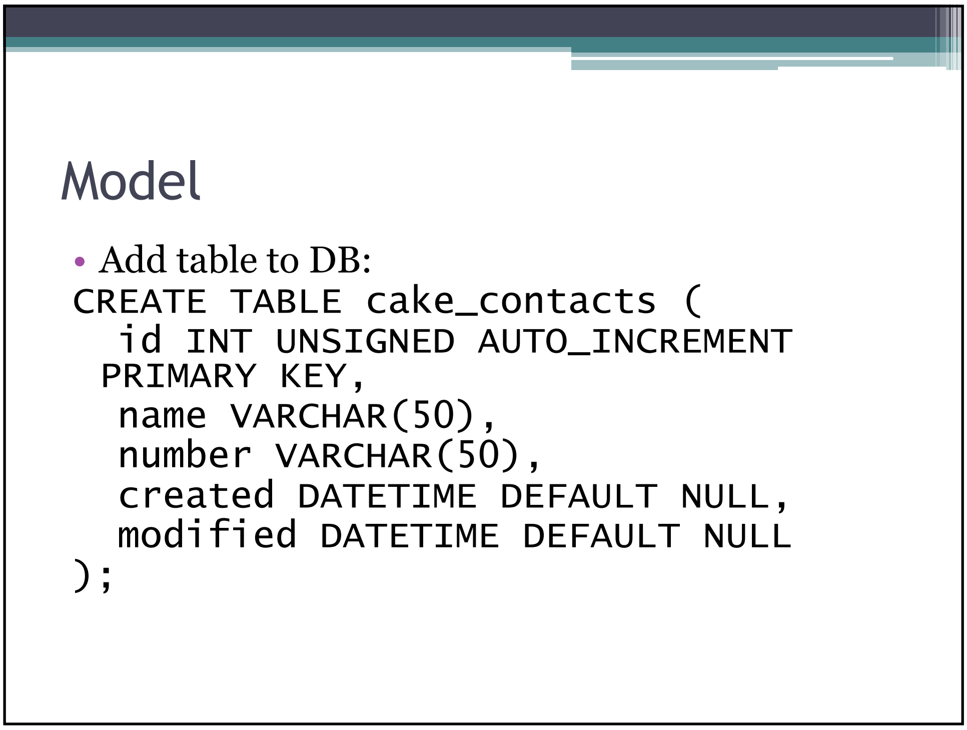
12



Simple DB table app

- An online contact list
- We want to add, edit, view and delete names and phone numbers
- Uses a single table

13

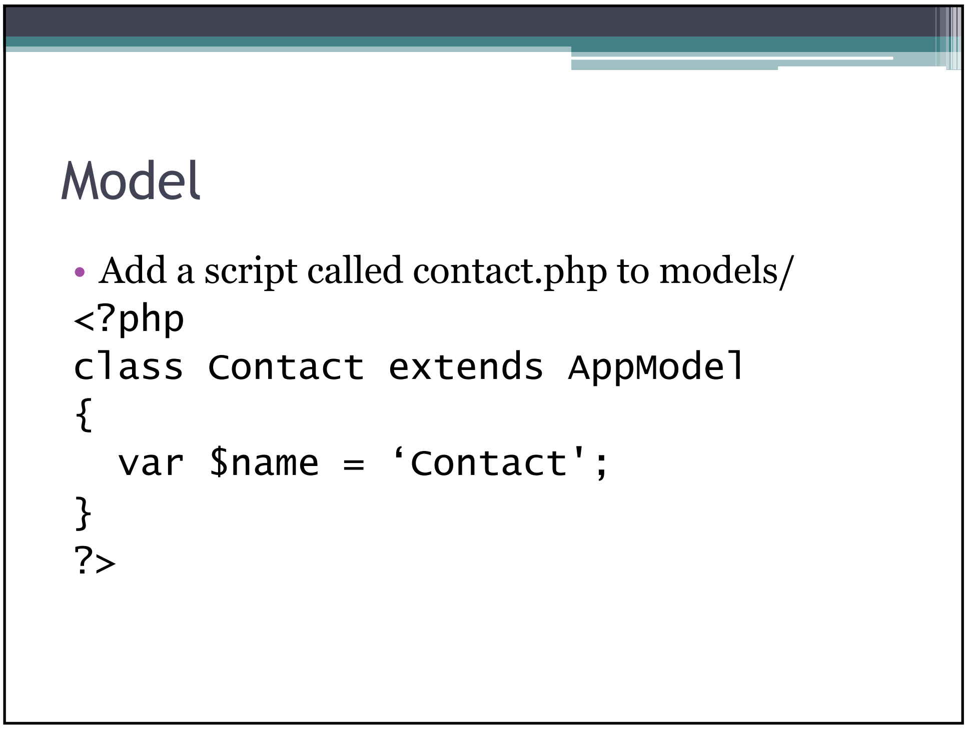


Model

- Add table to DB:

```
CREATE TABLE cake_contacts (
  id INT UNSIGNED AUTO_INCREMENT
 PRIMARY KEY,
  name VARCHAR(50),
  number VARCHAR(50),
  created DATETIME DEFAULT NULL,
  modified DATETIME DEFAULT NULL
);
```

14

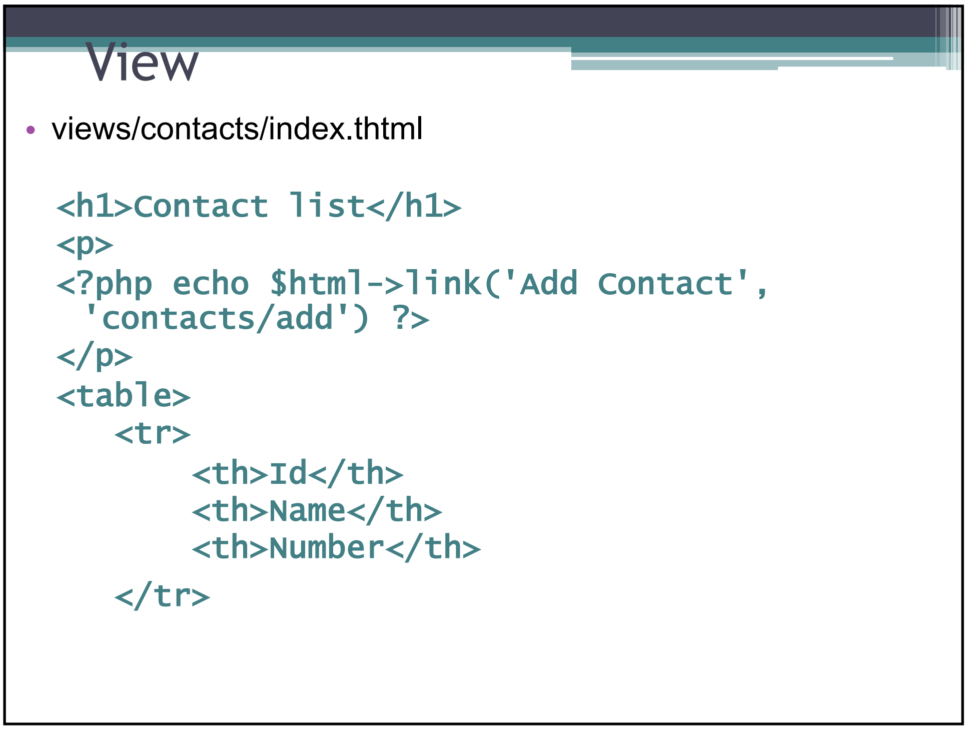


Model

- Add a script called contact.php to models/

```
<?php
class Contact extends AppModel
{
  var $name = ‘Contact';
}
?>
```

15

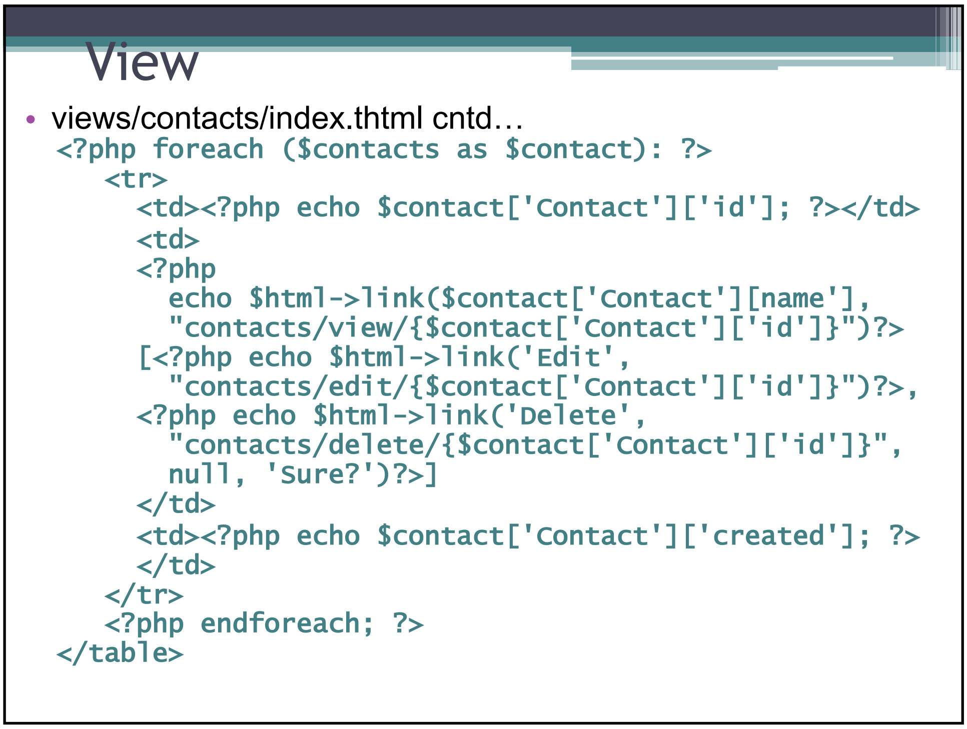


View

- views/contacts/index.thtml

```
<h1>Contact list</h1>
<p>
<?php echo $html->link('Add Contact',
 'contacts/add') ?>
</p>
<table>
   <tr>
       <th>Id</th>
       <th>Name</th>
       <th>Number</th>
   </tr>
```

16

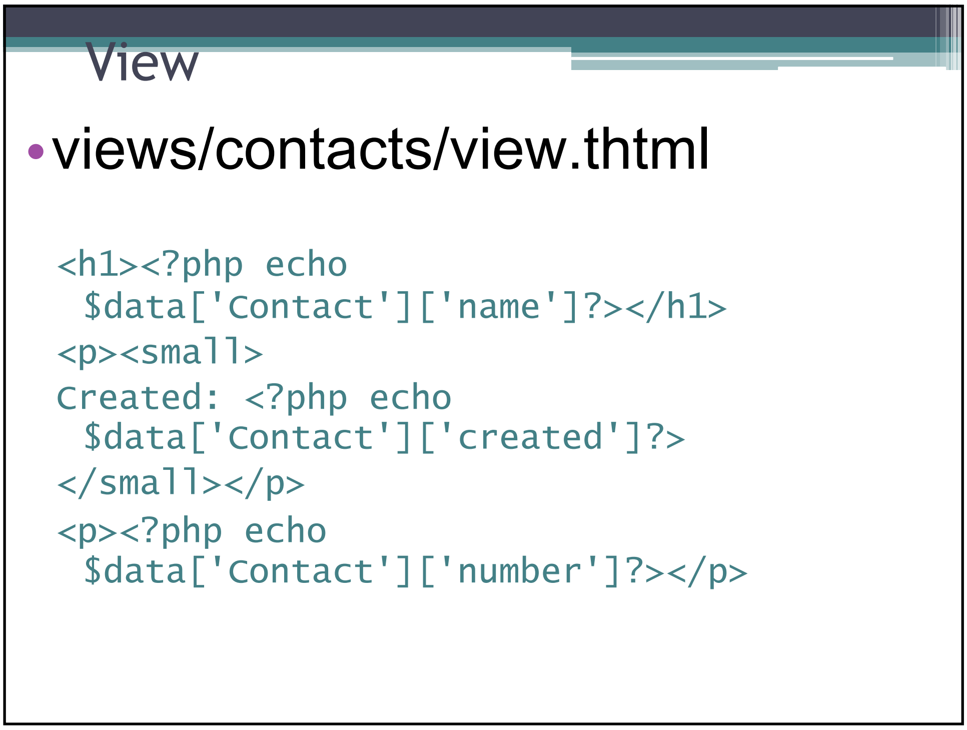


View

- views/contacts/index.thtml cntd…

```
<?php foreach ($contacts as $contact): ?>
   <tr>
     <td><?php echo $contact['Contact']['id']; ?></td>
     <td>
     <?php
       echo $html->link($contact['Contact'][name'],
       "contacts/view/{$contact['Contact']['id']}")?>
     [<?php echo $html->link('Edit',
       "contacts/edit/{$contact['Contact']['id']}")?>,
     <?php echo $html->link('Delete',
       "contacts/delete/{$contact['Contact']['id']}",
       null, 'Sure?')?>]
     </td>
     <td><?php echo $contact['Contact']['created']; ?>
     </td>
   </tr>
   <?php endforeach; ?>
</table>
```

17

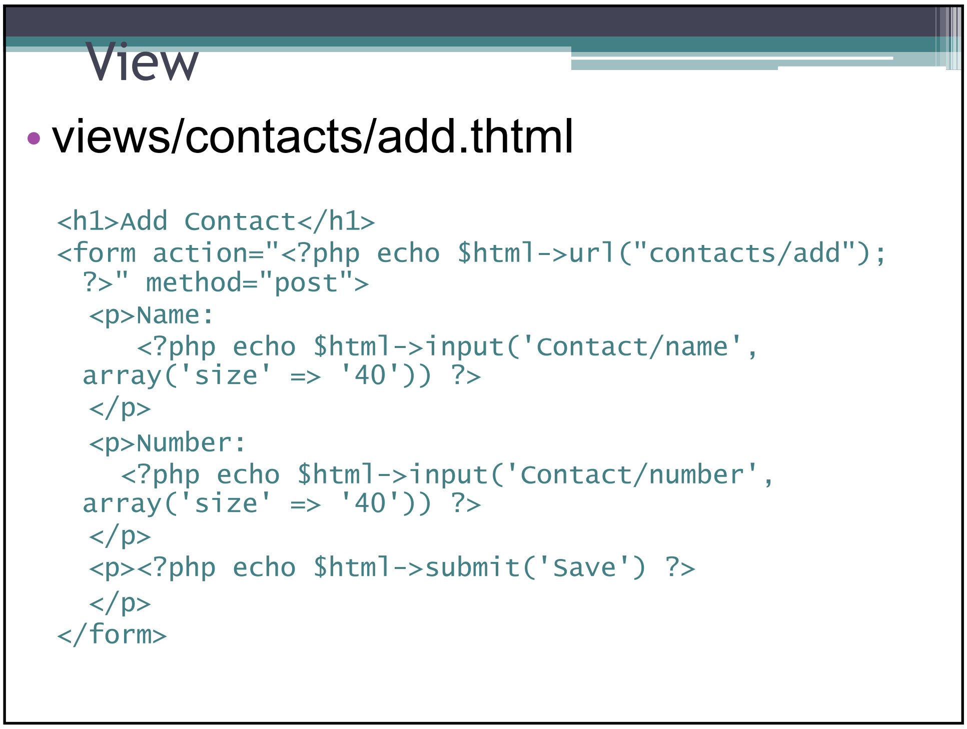


View

- views/contacts/view.thtml

```
<h1><?php echo
  $data['Contact']['name']?></h1>
<p><small>
Created: <?php echo
  $data['Contact']['created']?>
</small></p>
<p><?php echo
  $data['Contact']['number']?></p>
```

18

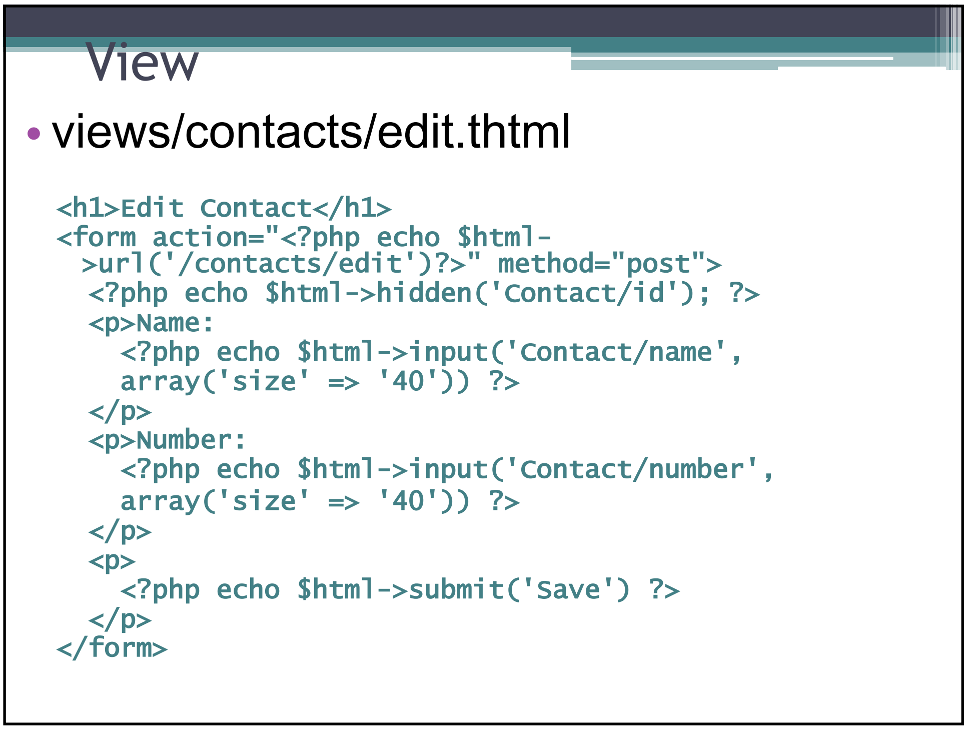


View

- views/contacts/add.thtml

```
<h1>Add Contact</h1>
<form action="<?php echo $html->url("contacts/add");
  ?>" method="post">
   <p>Name:
      <?php echo $html->input('Contact/name',
  array('size' => '40')) ?>
   </p>
   <p>Number:
     <?php echo $html->input('Contact/number',
  array('size' => '40')) ?>
   </p>
   <p><?php echo $html->submit('Save') ?>
   </p>
</form>
```

19

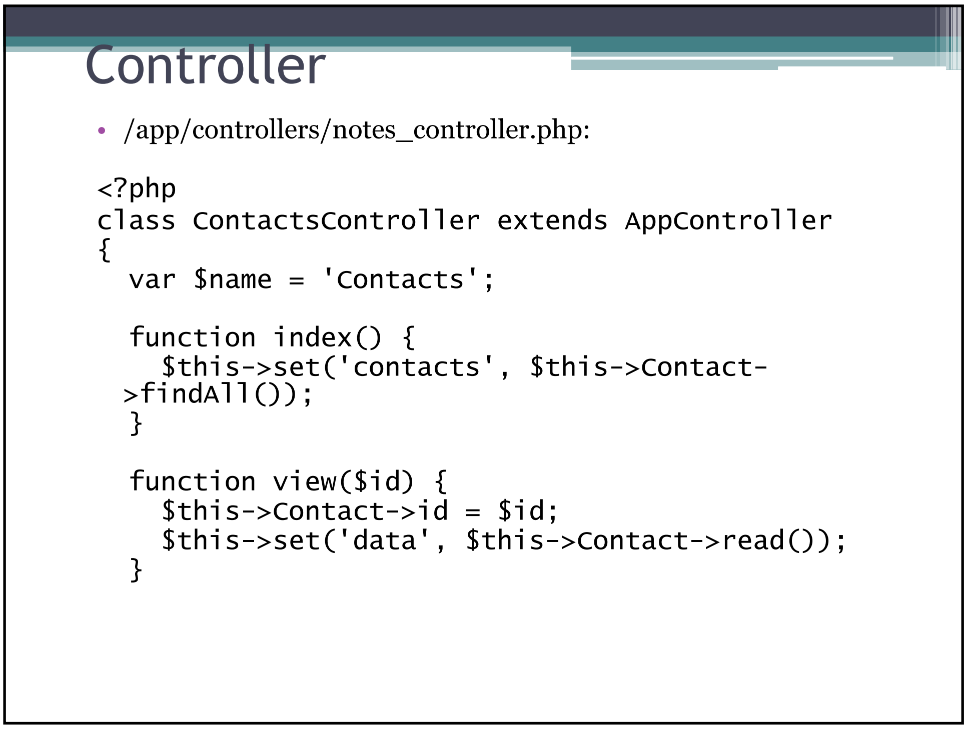


View

- views/contacts/edit.thtml

```
<h1>Edit Contact</h1>
<form action="<?php echo $html-
  >url('/contacts/edit')?>" method="post">
   <?php echo $html->hidden('Contact/id'); ?>
   <p>Name:
     <?php echo $html->input('Contact/name',
     array('size' => '40')) ?>
   </p>
   <p>Number:
     <?php echo $html->input('Contact/number',
     array('size' => '40')) ?>
   </p>
   <p>
     <?php echo $html->submit('Save') ?>
   </p>
</form>
```

20

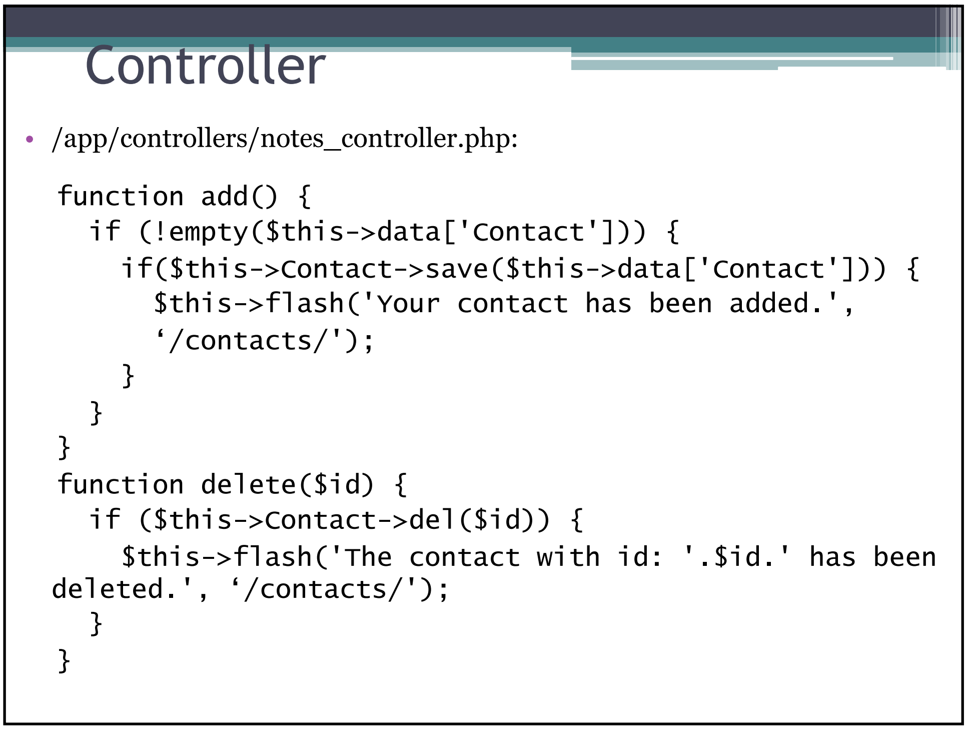


Controller

- /app/controllers/notes_controller.php:

```
<?php
class ContactsController extends AppController
{
  var $name = 'Contacts';

  function index() {
    $this->set('contacts', $this->Contact-
  >findAll());
  }

  function view($id) {
    $this->Contact->id = $id;
    $this->set('data', $this->Contact->read());
  }
```

21



Controller

- /app/controllers/notes_controller.php:

```
function add() {
  if (!empty($this->data['Contact'])) {
    if($this->Contact->save($this->data['Contact'])) {
      $this->flash('Your contact has been added.',
      ‘/contacts/');
    }
  }
}
function delete($id) {
  if ($this->Contact->del($id)) {
    $this->flash('The contact with id: '.$id.' has been
deleted.', ‘/contacts/');
  }
}
```

22

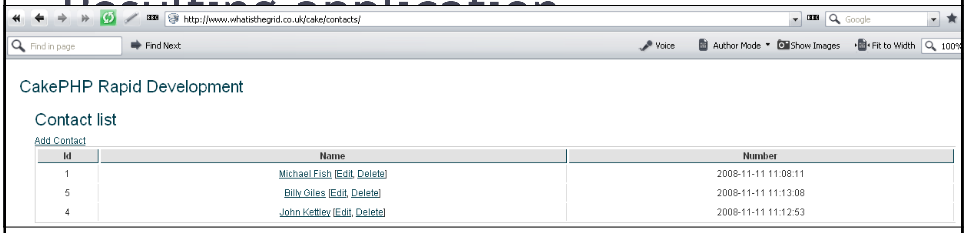
Controller

- /app/controllers/notes_controller.php:

```
  function edit($id = null) {
    if (empty($this->data['Contact'])) {
       $this->Contact->id = $id;
       $this->data = $this->Contact->read();
    } else {
      if($this->Contact->save($this->data['Contact'])) {
        $this->flash('Your contact has been 
 updated.',‘/contacts/');
      }
    }
  }
}
?>
```

23

Resulting application


http://www.whatisthegrid.co.uk/cake/contacts/

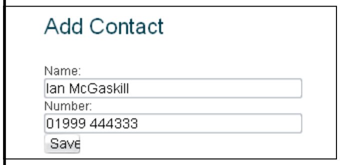
CakePHP Rapid Development

Contact list

Add Contact

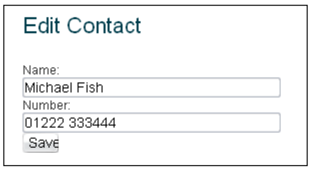
Id	Name	Number
1	Michael Fish [Edit, Delete]	2008-11-11 11:08:11
5	Billy Giles [Edit, Delete]	2008-11-11 11:13:08
4	John Kettley [Edit, Delete]	2008-11-11 11:12:53

…../cake/contacts/add …../cake/contacts/edit/1 …../cake/contacts/view/4


Add Contact

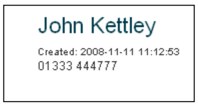
Name: Ian McGaskill

Number: 01999 444333


Edit Contact

Name: Michael Fish

Number: 01222 333444


John Kettley

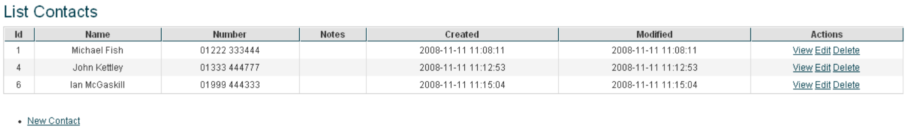
Created: 2008-11-11 11:12:53

01333 444777

24

Other benefits

- Bake script – command line script generator
- Uses LAMP common web platform
  - (Linux, Apache, MySQL and PHP)
- Helpers for HTML, Forms, Pagination, AJAX, Javascript, XML, RSS
- Scaffolding (no need for views)
  - Create controller with var $scaffold;



List Contacts

Id	Name	Number	Notes	Created	Modified	Actions
1	Michael Fish	01222 333444		2008-11-11 11:08:11	2008-11-11 11:08:11	View Edit Delete
4	John Kettley	01333 444777		2008-11-11 11:12:53	2008-11-11 11:12:53	View Edit Delete
6	Ian McGaskill	01999 444333		2008-11-11 11:15:04	2008-11-11 11:15:04	View Edit Delete

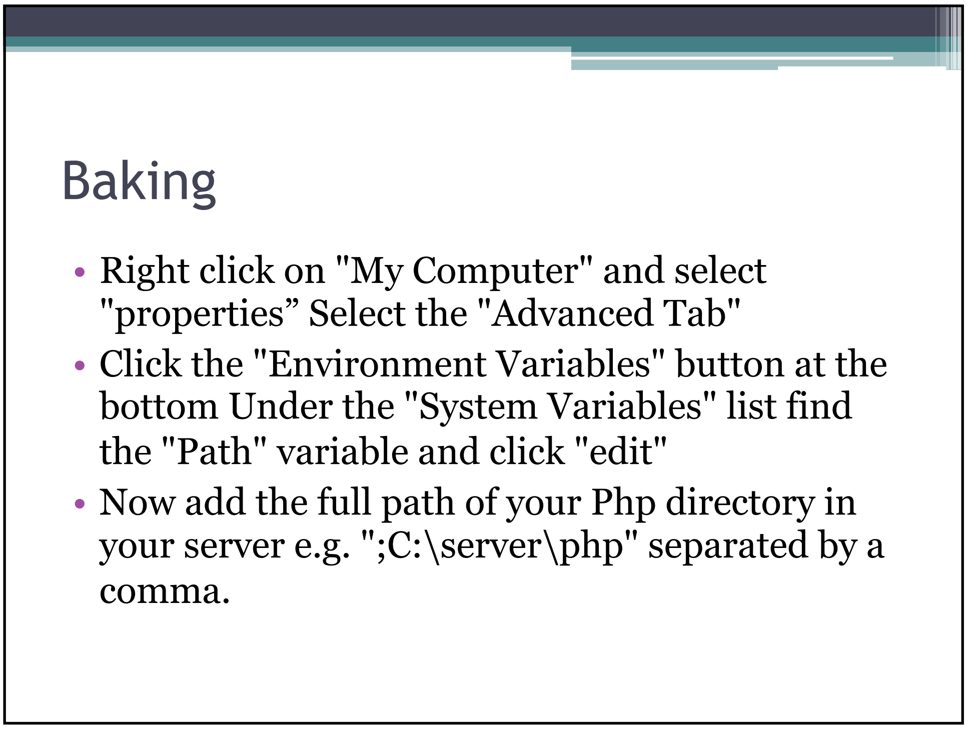
- New Contact

25

Disadvantages

- Mainly due to the limitations of PHP
  - Clumsy OOP
  - Access data through arrays not classes (which RoR does) – more code in view
- Create tables in separate SQL
- Not well documented yet

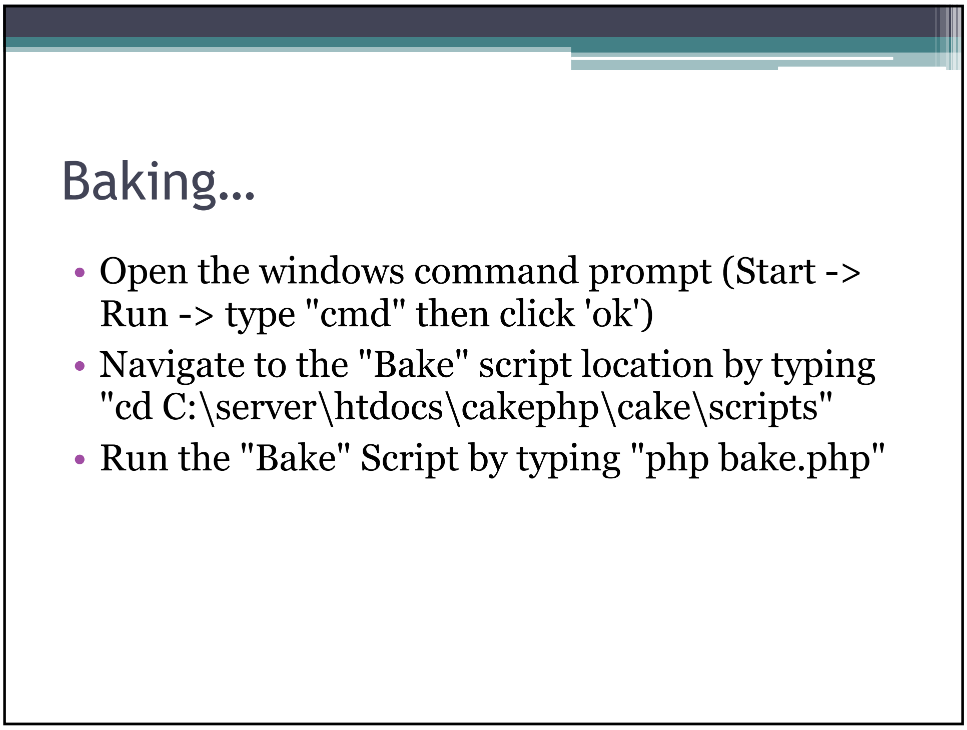
26



Baking

- Right click on "My Computer" and select "properties” Select the "Advanced Tab"
- Click the "Environment Variables" button at the bottom Under the "System Variables" list find the "Path" variable and click "edit"
- Now add the full path of your Php directory in your server e.g. ";C:\server\php" separated by a comma.

27

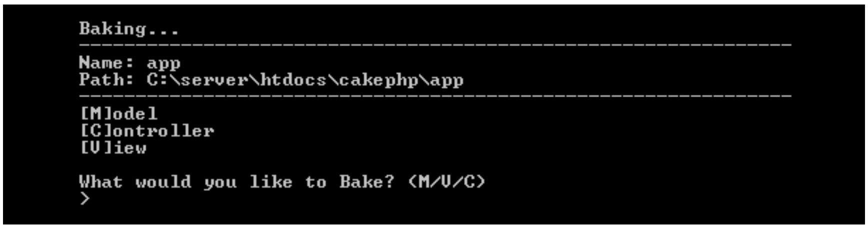


Baking…

- Open the windows command prompt (Start -> Run -> type "cmd" then click 'ok')
- Navigate to the "Bake" script location by typing "cd C:\server\htdocs\cakephp\cake\scripts"
- Run the "Bake" Script by typing "php bake.php"

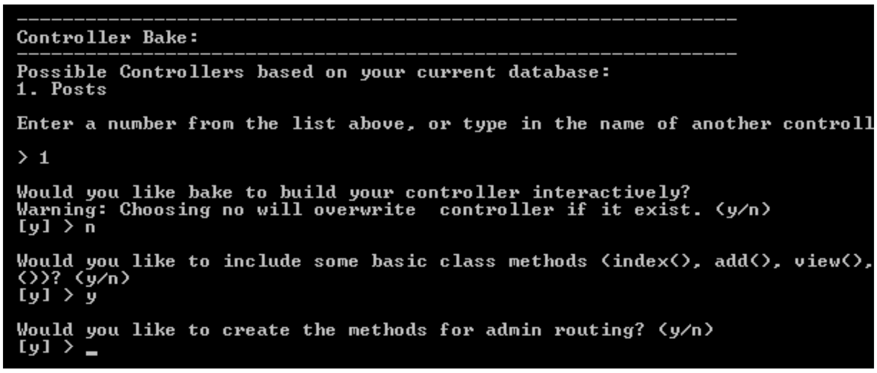
28

Baking…



```
Baking...
---------------------------------------------------------------
Name: app
Path: C:\server\htdocs\cakephp\app
---------------------------------------------------------------
[M]odel
[C]ontroller
[V]iew

What would you like to Bake? (M/V/C)
>
```

Baking…



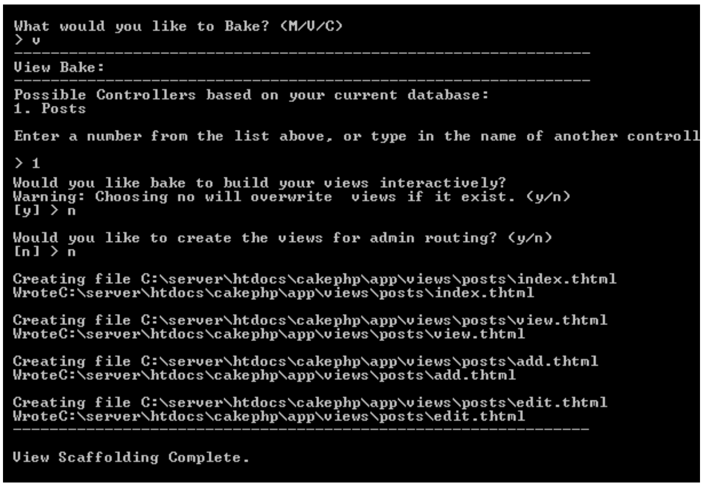
```
---------------------------------------------------------------
Controller Bake:
---------------------------------------------------------------
Possible Controllers based on your current database:
1. Posts

Enter a number from the list above, or type in the name of another controll

> 1

Would you like bake to build your controller interactively?
Warning: Choosing no will overwrite  controller if it exist. (y/n)
[y] > n

Would you like to include some basic class methods (index(), add(), view(),
())? (y/n)
[y] > y

Would you like to create the methods for admin routing? (y/n)
[y] > _
```

Baking…

```php
<?php
class PostsController extends AppController {

    var $name = 'Posts';
    var $helpers = array('Html', 'Form' );

    function index() {
        $this->Post->recursive = 0;
        $this->set('posts', $this->Post->findAll());
    }

    function view($id = null) {
        if (!$id) {
            $this->Session->setFlash('Invalid id for Post.');
            $this->redirect('/posts/index');
        }
        $this->set('post', $this->Post->read(null, $id));
    }
```

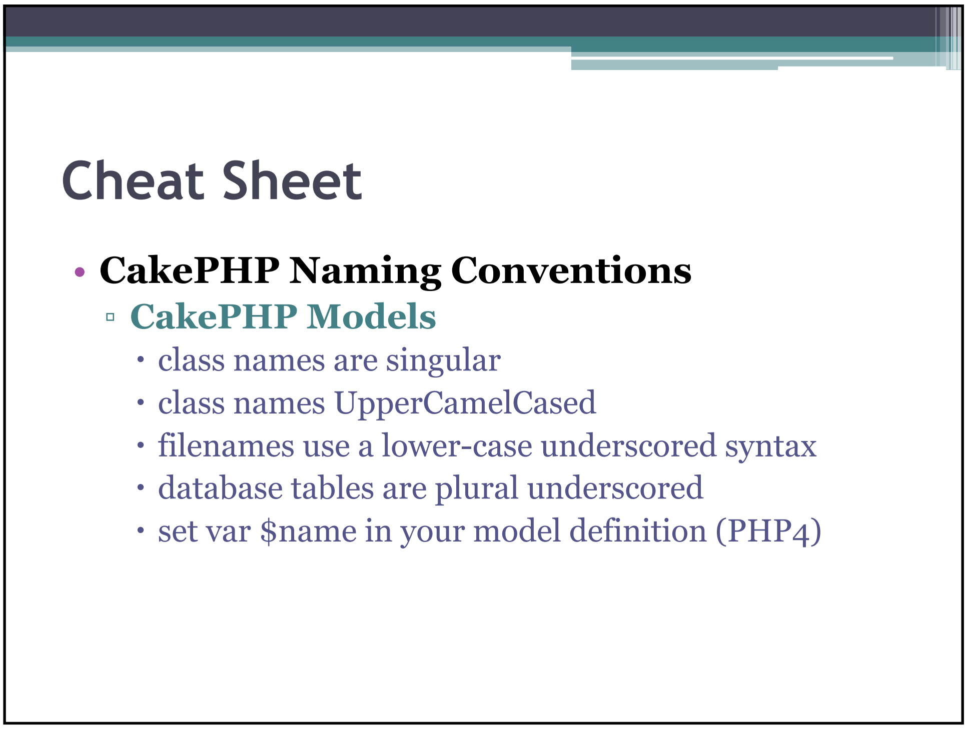
31

Baking…



```
What would you like to Bake? (M/V/C)
> v
---------------------------------------------------------------
View Bake:
---------------------------------------------------------------
Possible Controllers based on your current database:
1. Posts

Enter a number from the list above, or type in the name of another controll

> 1
Would you like bake to build your views interactively?
Warning: Choosing no will overwrite  views if it exist. (y/n)
[y] > n

Would you like to create the views for admin routing? (y/n)
[n] > n

Creating file C:\server\htdocs\cakephp\app\views\posts\index.thtml
WroteC:\server\htdocs\cakephp\app\views\posts\index.thtml

Creating file C:\server\htdocs\cakephp\app\views\posts\view.thtml
WroteC:\server\htdocs\cakephp\app\views\posts\view.thtml

Creating file C:\server\htdocs\cakephp\app\views\posts\add.thtml
WroteC:\server\htdocs\cakephp\app\views\posts\add.thtml

Creating file C:\server\htdocs\cakephp\app\views\posts\edit.thtml
WroteC:\server\htdocs\cakephp\app\views\posts\edit.thtml
---------------------------------------------------------------

View Scaffolding Complete.
```

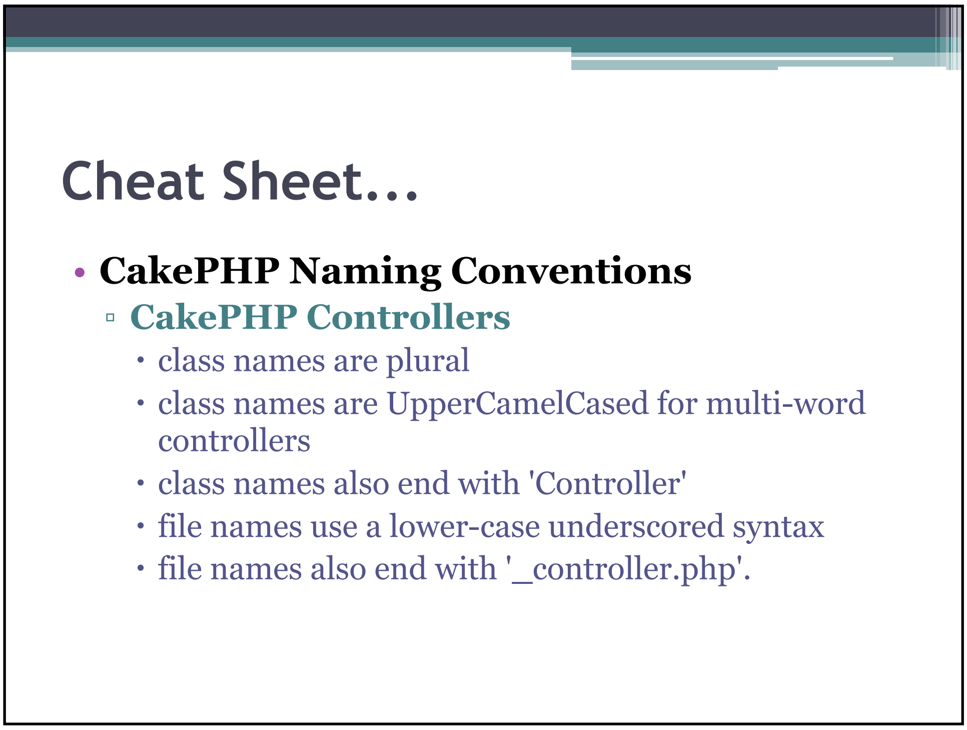
32



Cheat Sheet

- **CakePHP Naming Conventions**
  - **CakePHP Models**
    - class names are singular
    - class names UpperCamelCased
    - filenames use a lower-case underscored syntax
    - database tables are plural underscored
    - set var $name in your model definition (PHP4)

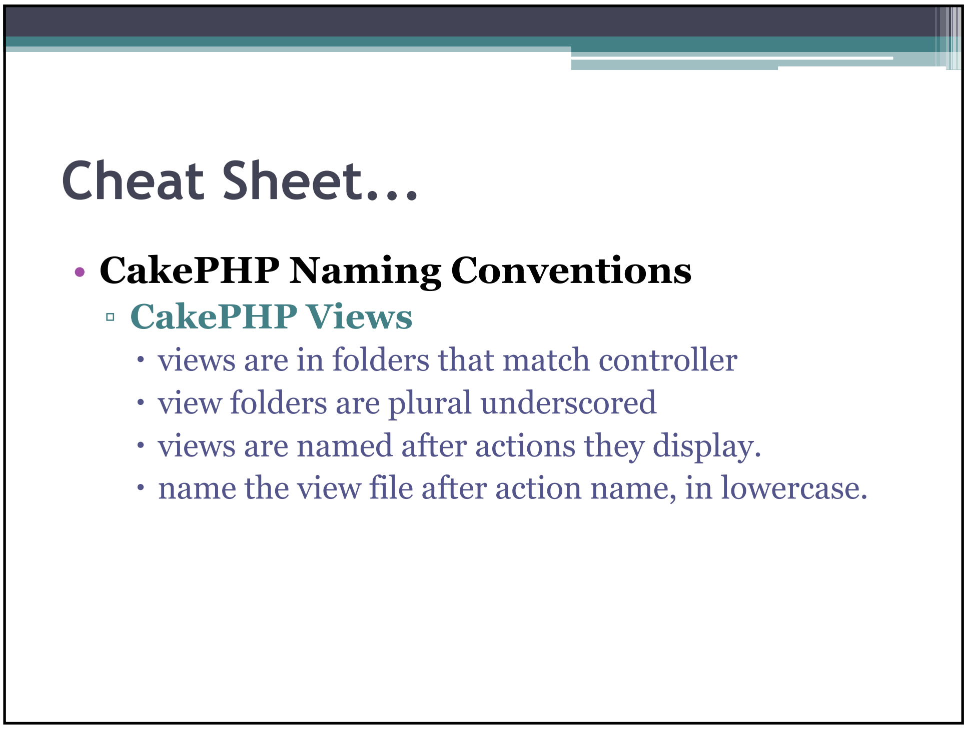
33



Cheat Sheet…

- **CakePHP Naming Conventions**
  - **CakePHP Controllers**
    - class names are plural
    - class names are UpperCamelCased for multi-word controllers
    - class names also end with 'Controller'
    - file names use a lower-case underscored syntax
    - file names also end with '_controller.php'.

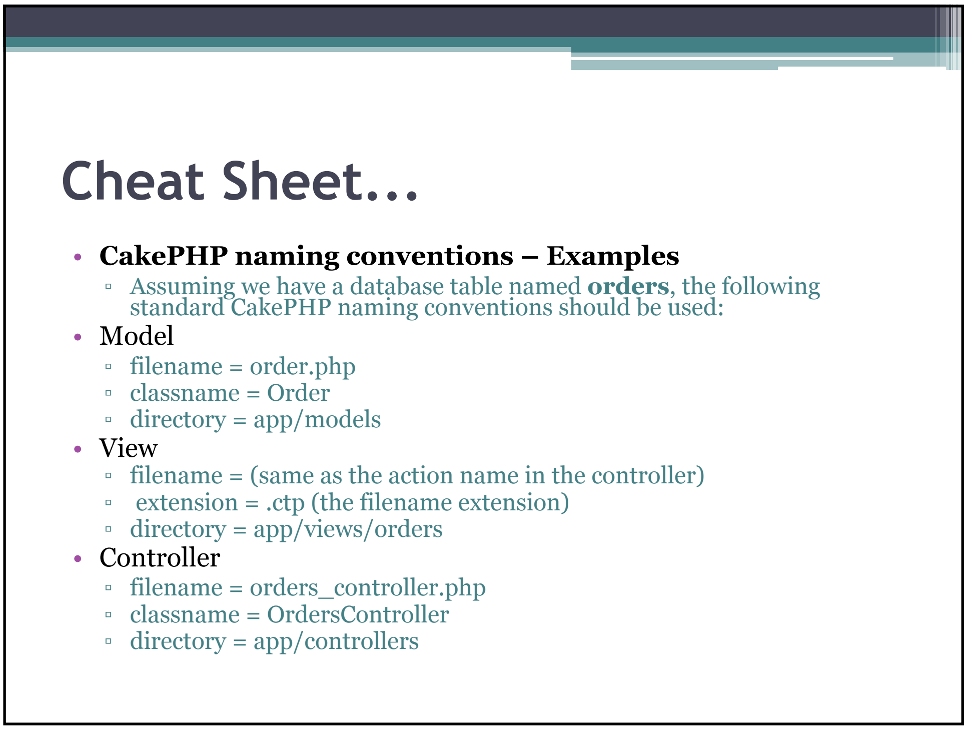
34



Cheat Sheet…

- **CakePHP Naming Conventions**
  - **CakePHP Views**
    - views are in folders that match controller
    - view folders are plural underscored
    - views are named after actions they display.
    - name the view file after action name, in lowercase.

35



Cheat Sheet…

- **CakePHP naming conventions – Examples**
  - Assuming we have a database table named **orders**, the following standard CakePHP naming conventions should be used:
- Model
  - filename = order.php
  - classname = Order
  - directory = app/models
- View
  - filename = (same as the action name in the controller)
  - extension = .ctp (the filename extension)
  - directory = app/views/orders
- Controller
  - filename = orders_controller.php
  - classname = OrdersController
  - directory = app/controllers

36

Cheat Sheet…

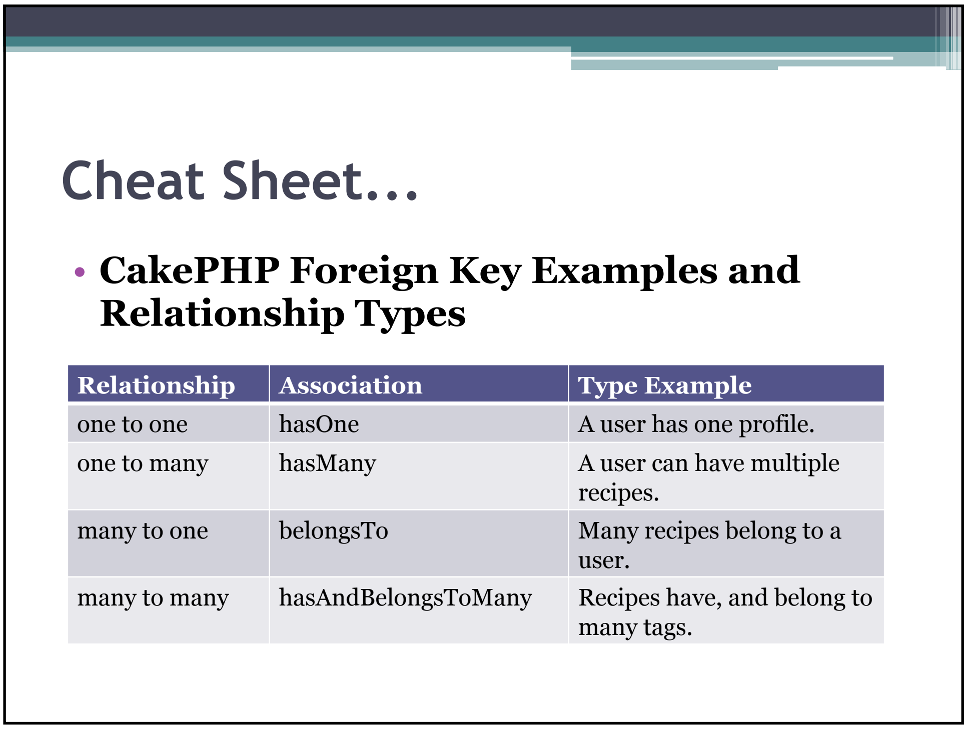
- **CakePHP naming conventions – Examples…**
  - Assuming we have a database table named **order_items**, the following standard CakePHP naming conventions should be used:
- Model
  - filename = order_item.php
  - classname = OrderItem
  - directory = app/models
- View
  - filename = (same as the action name in the controller)
  - extension = .ctp (the filename extension)
  - directory = app/views/order_items
- Controller
  - filename = order_items_controller.php
  - classname = OrderItemsController
  - directory = app/controllers

37

Cheat Sheet…

- Bake Commands
  - cake bake
  - cake bake controller
  - cake bake model
  - cake bake view
  - cake bake project
  - cake bake controller orders
  - cake bake model order

38

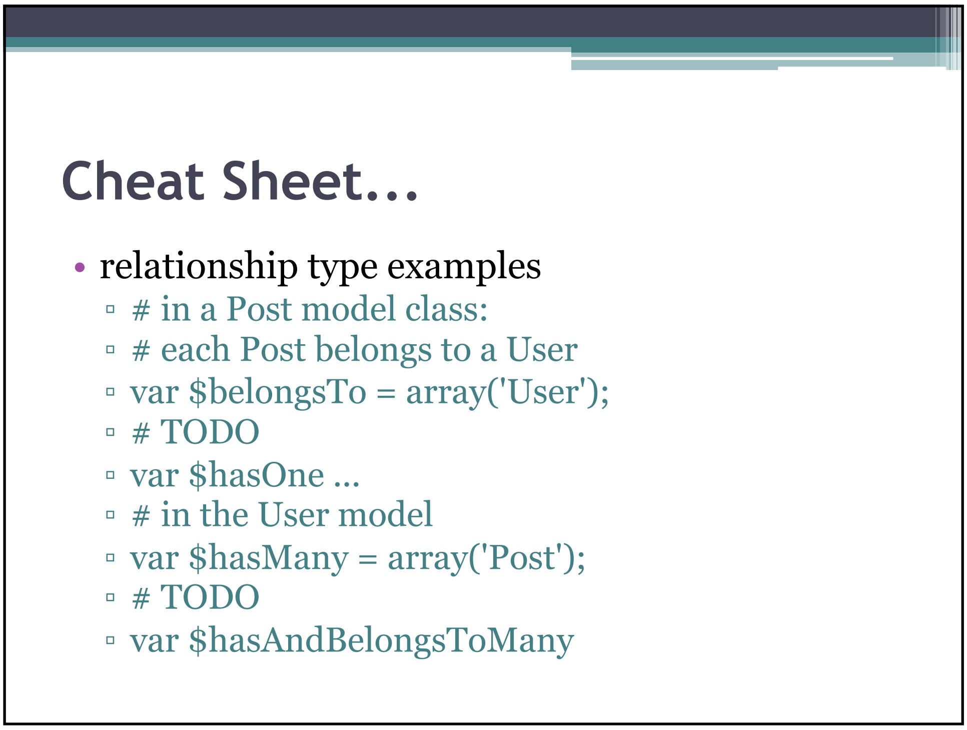


Cheat Sheet…

- **CakePHP Foreign Key Examples and Relationship Types**

Relationship	Association	Type Example
one to one	hasOne	A user has one profile.
one to many	hasMany	A user can have multiple recipes.
many to one	belongsTo	Many recipes belong to a user.
many to many	hasAndBelongsToMany	Recipes have, and belong to many tags.

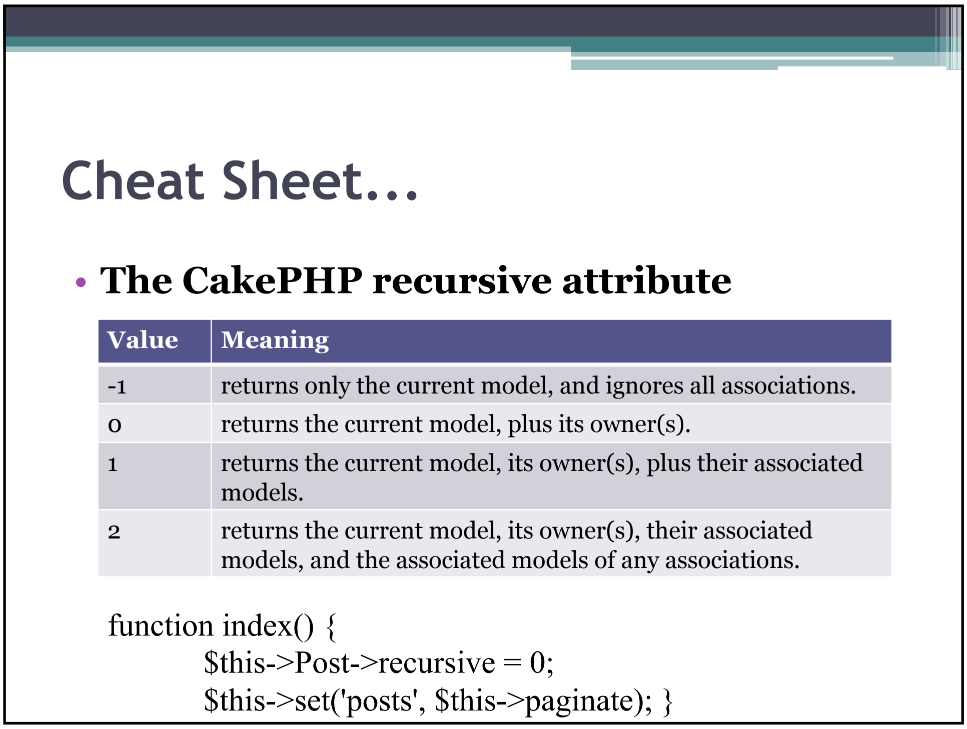
39



Cheat Sheet…

- relationship type examples
  - # in a Post model class:
  - # each Post belongs to a User
  - var $belongsTo = array('User');
  - # TODO
  - var $hasOne …
  - # in the User model
  - var $hasMany = array('Post');
  - # TODO
  - var $hasAndBelongsToMany

40



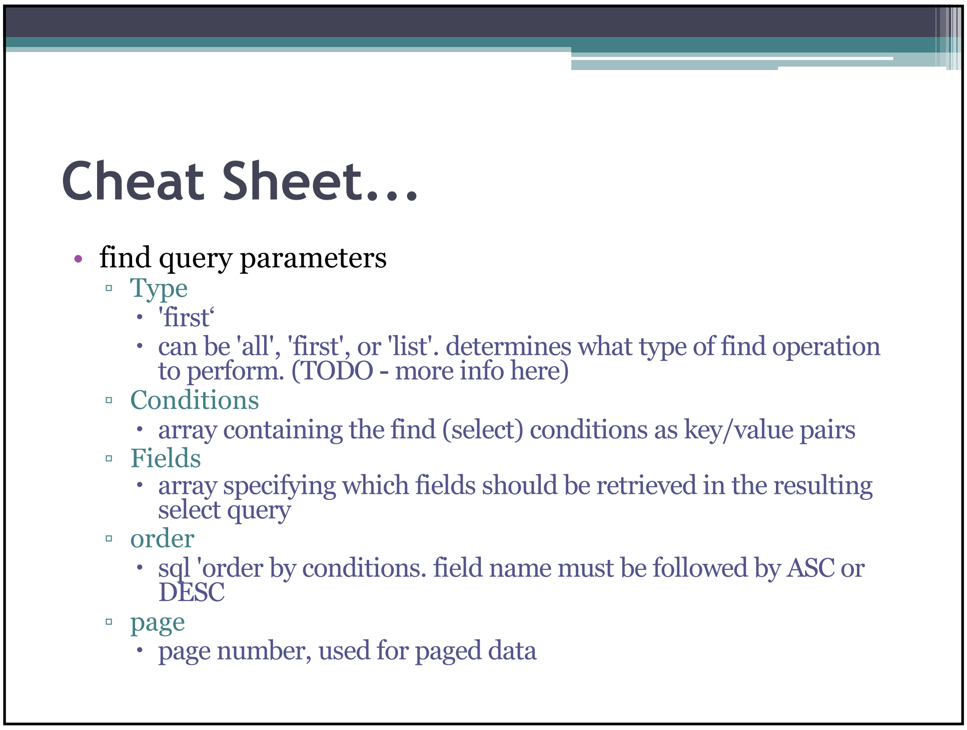
Cheat Sheet…

- **The CakePHP recursive attribute**

Value	Meaning
-1	returns only the current model, and ignores all associations.
0	returns the current model, plus its owner(s).
1	returns the current model, its owner(s), plus their associated models.
2	returns the current model, its owner(s), their associated models, and the associated models of any associations.

```
function index() {
        $this->Post->recursive = 0;
        $this->set('posts', $this->paginate); }
```

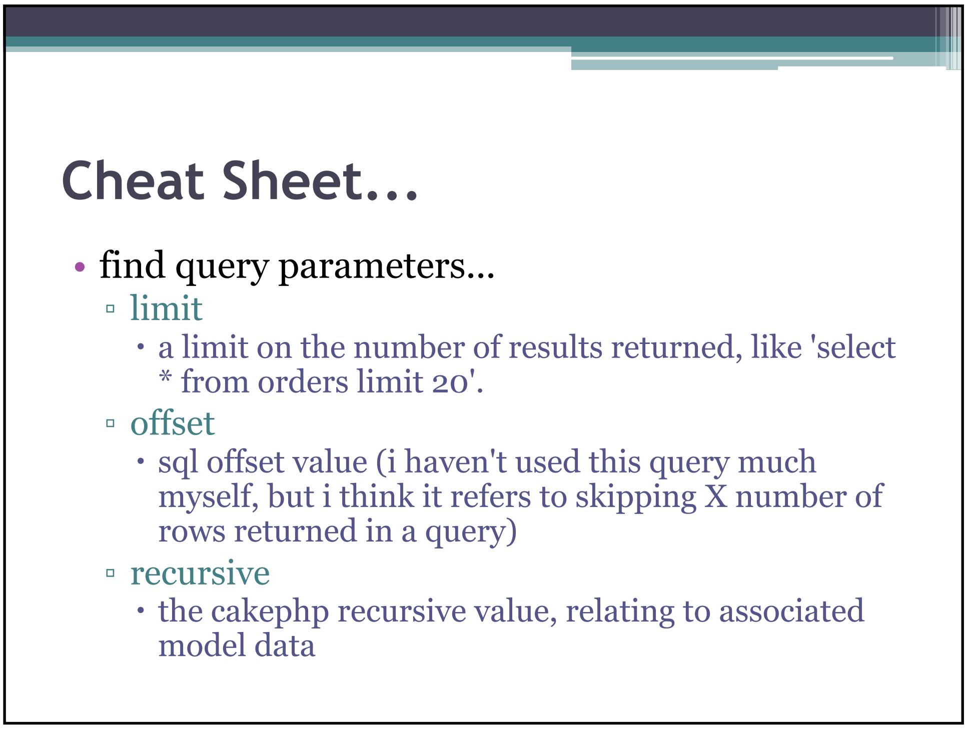
41



Cheat Sheet…

- find query parameters
  - Type
    - 'first‘
    - can be 'all', 'first', or 'list'. determines what type of find operation to perform. (TODO - more info here)
  - Conditions
    - array containing the find (select) conditions as key/value pairs
  - Fields
    - array specifying which fields should be retrieved in the resulting select query
  - order
    - sql 'order by conditions. field name must be followed by ASC or DESC
  - page
    - page number, used for paged data

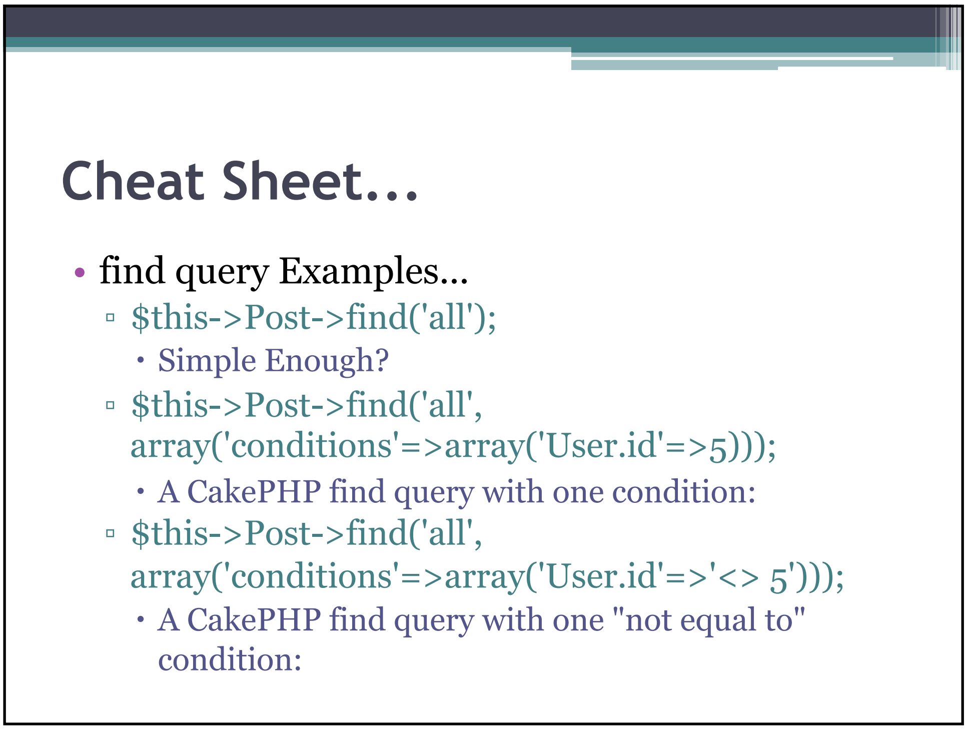
42



Cheat Sheet…

- find query parameters…
  - limit
    - a limit on the number of results returned, like 'select * from orders limit 20'.
  - offset
    - sql offset value (i haven't used this query much myself, but i think it refers to skipping X number of rows returned in a query)
  - recursive
    - the cakephp recursive value, relating to associated model data

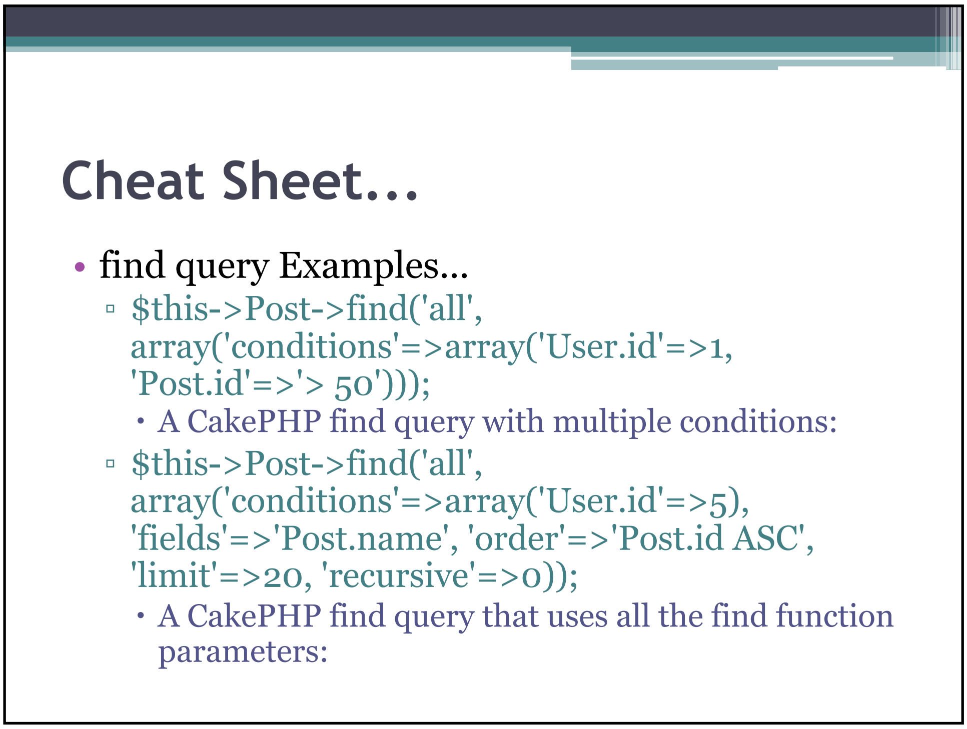
43



Cheat Sheet…

- find query Examples…
  - $this->Post->find('all');
    - Simple Enough?
  - $this->Post->find('all', array('conditions'=>array('User.id'=>5)));
    - A CakePHP find query with one condition:
  - $this->Post->find('all', array('conditions'=>array('User.id'=>'<> 5')));
    - A CakePHP find query with one "not equal to" condition:

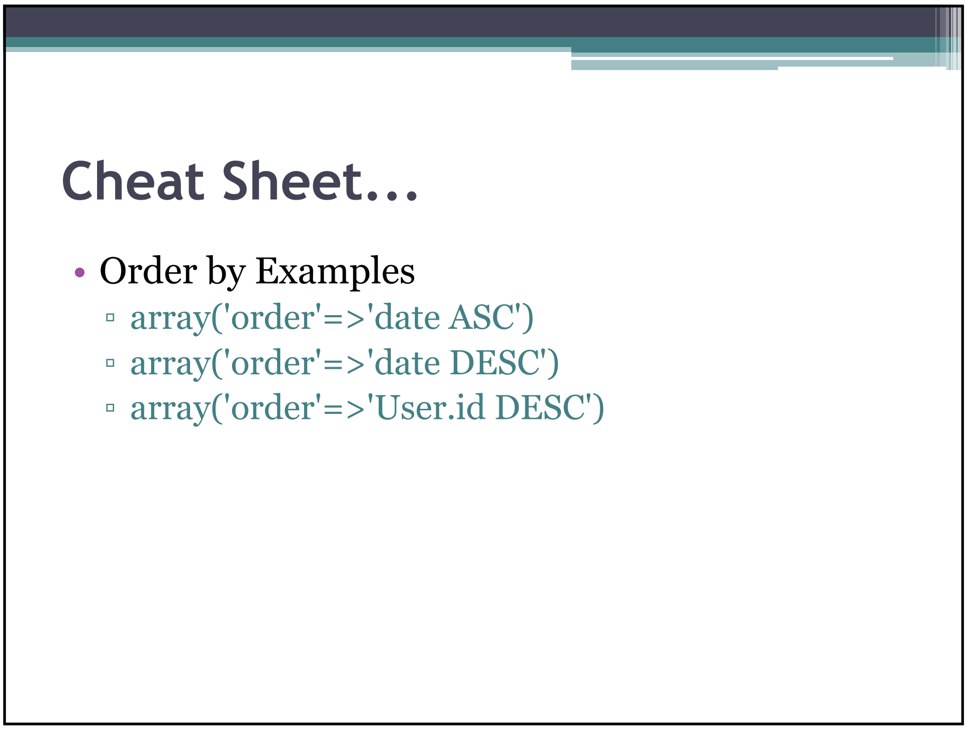
44



Cheat Sheet…

- find query Examples…
  - $this->Post->find('all', array('conditions'=>array('User.id'=>1, 'Post.id'=>'> 50')));
    - A CakePHP find query with multiple conditions:
  - $this->Post->find('all', array('conditions'=>array('User.id'=>5), 'fields'=>'Post.name', 'order'=>'Post.id ASC', 'limit'=>20, 'recursive'=>0));
    - A CakePHP find query that uses all the find function parameters:

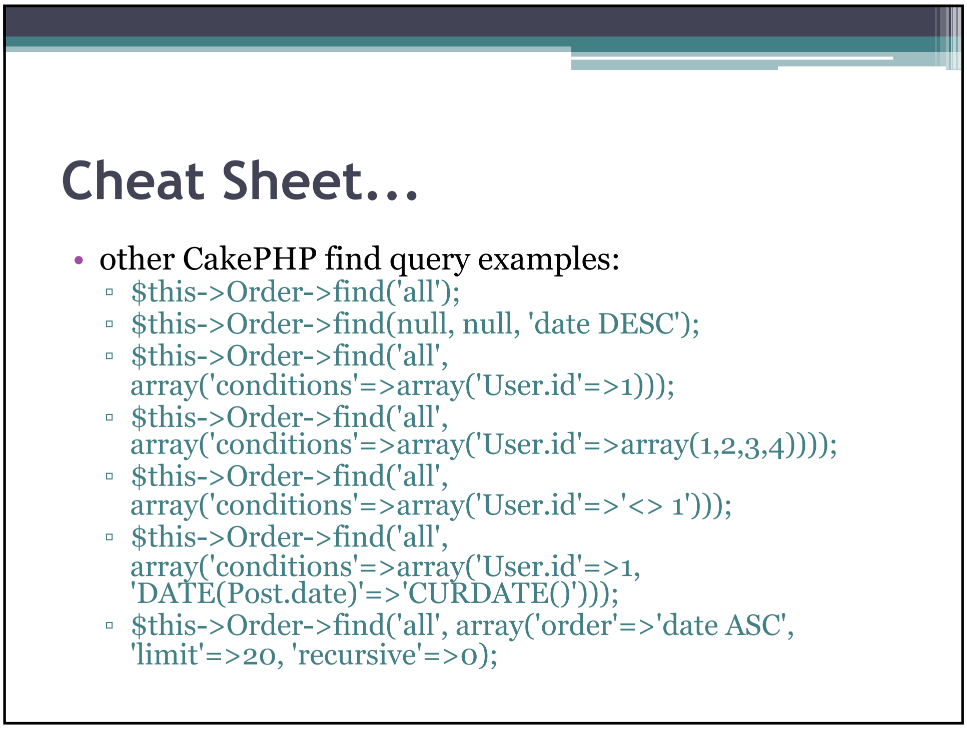
45



Cheat Sheet…

- Order by Examples
  - array('order'=>'date ASC')
  - array('order'=>'date DESC')
  - array('order'=>'User.id DESC')

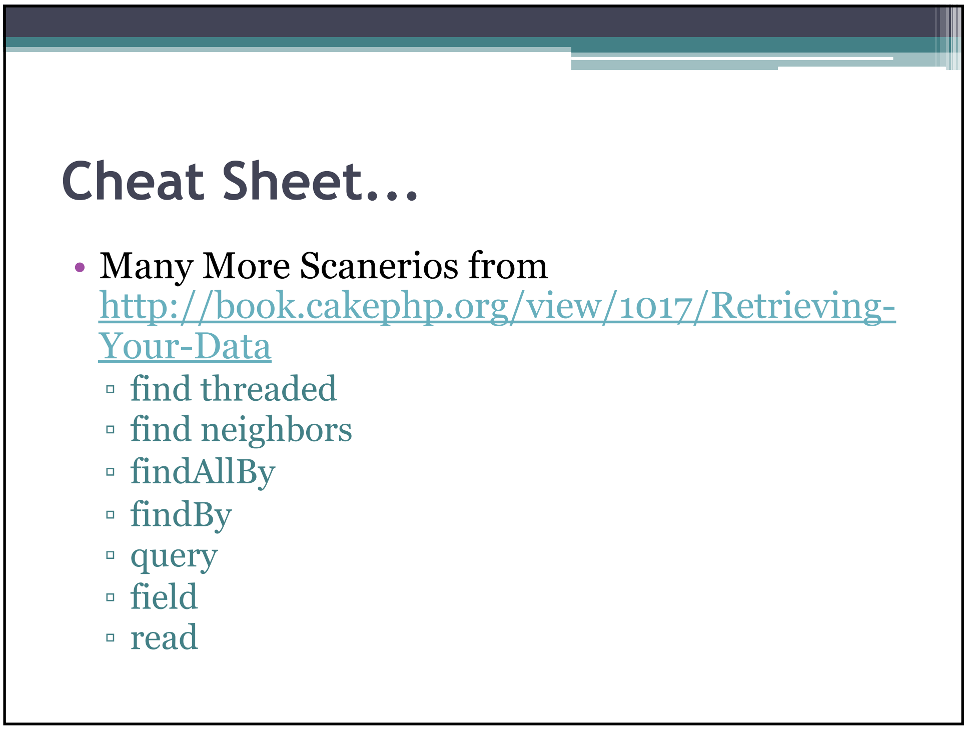
46



Cheat Sheet…

- other CakePHP find query examples:
  - $this->Order->find('all');
  - $this->Order->find(null, null, 'date DESC');
  - $this->Order->find('all', array('conditions'=>array('User.id'=>1)));
  - $this->Order->find('all', array('conditions'=>array('User.id'=>array(1,2,3,4))));
  - $this->Order->find('all', array('conditions'=>array('User.id'=>'<> 1')));
  - $this->Order->find('all', array('conditions'=>array('User.id'=>1, 'DATE(Post.date)'=>'CURDATE()')));
  - $this->Order->find('all', array('order'=>'date ASC', 'limit'=>20, 'recursive'=>0);

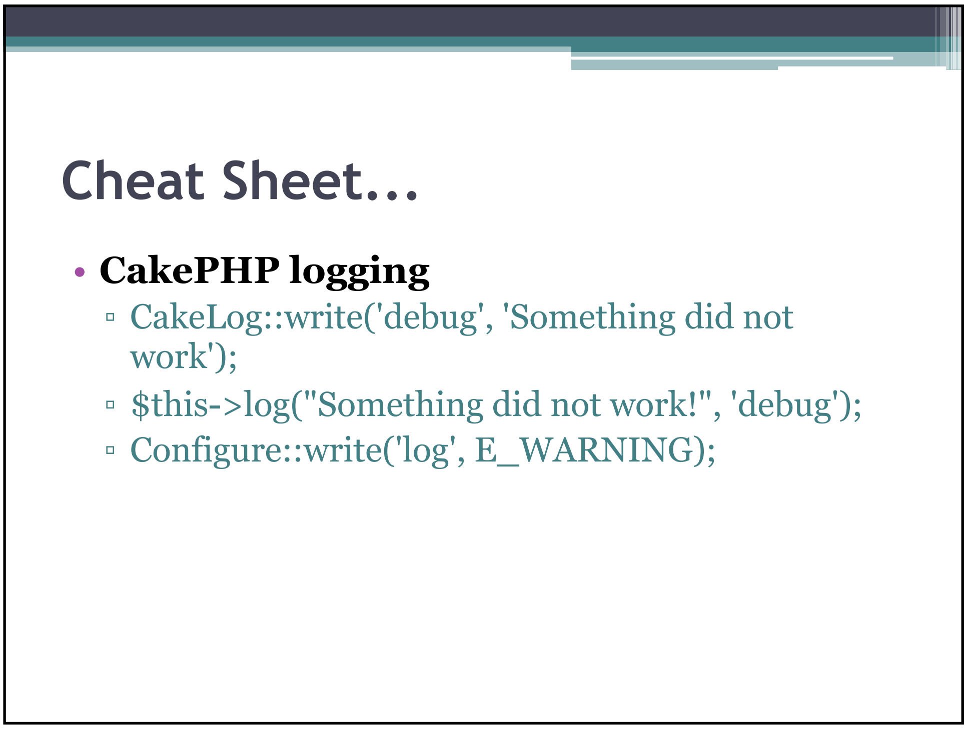
47



Cheat Sheet…

- Many More Scanerios from http://book.cakephp.org/view/1017/Retrieving-Your-Data
  - find threaded
  - find neighbors
  - findAllBy
  - findBy
  - query
  - field
  - read

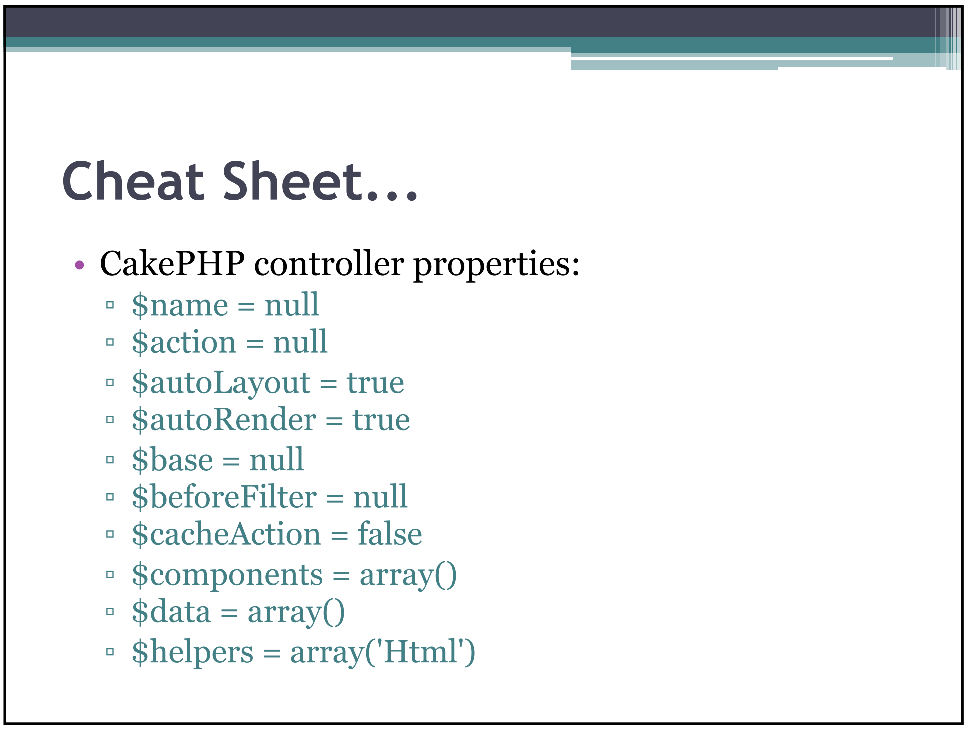
48



Cheat Sheet…

- **CakePHP logging**
  - CakeLog::write('debug', 'Something did not work');
  - $this->log("Something did not work!", 'debug');
  - Configure::write('log', E_WARNING);

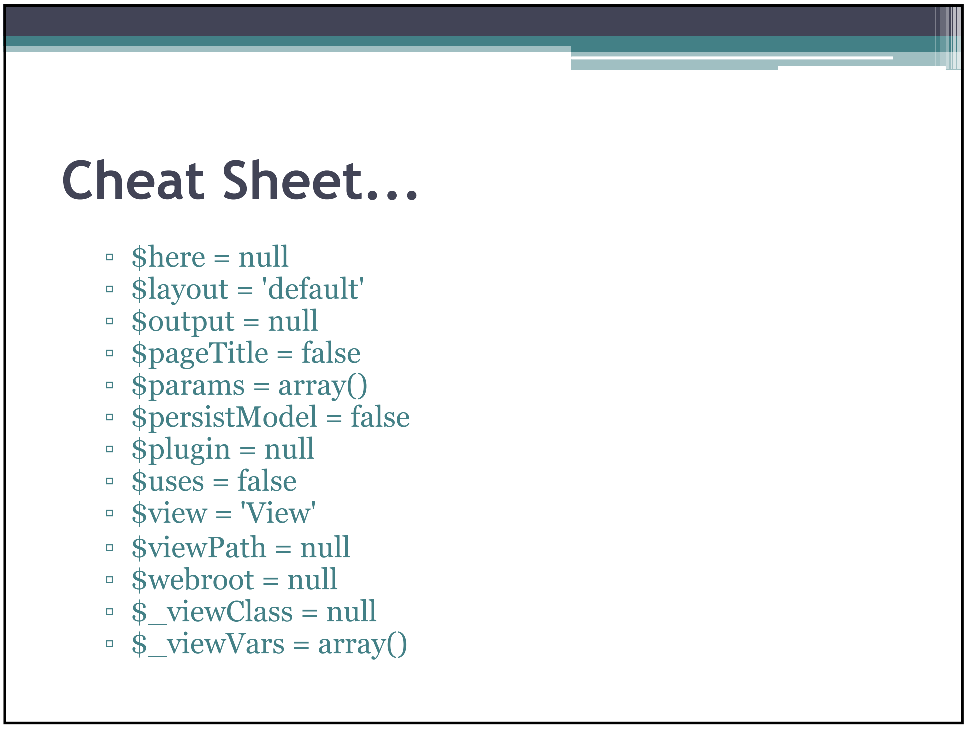
49



Cheat Sheet…

- CakePHP controller properties:
  - $name = null
  - $action = null
  - $autoLayout = true
  - $autoRender = true
  - $base = null
  - $beforeFilter = null
  - $cacheAction = false
  - $components = array()
  - $data = array()
  - $helpers = array('Html')

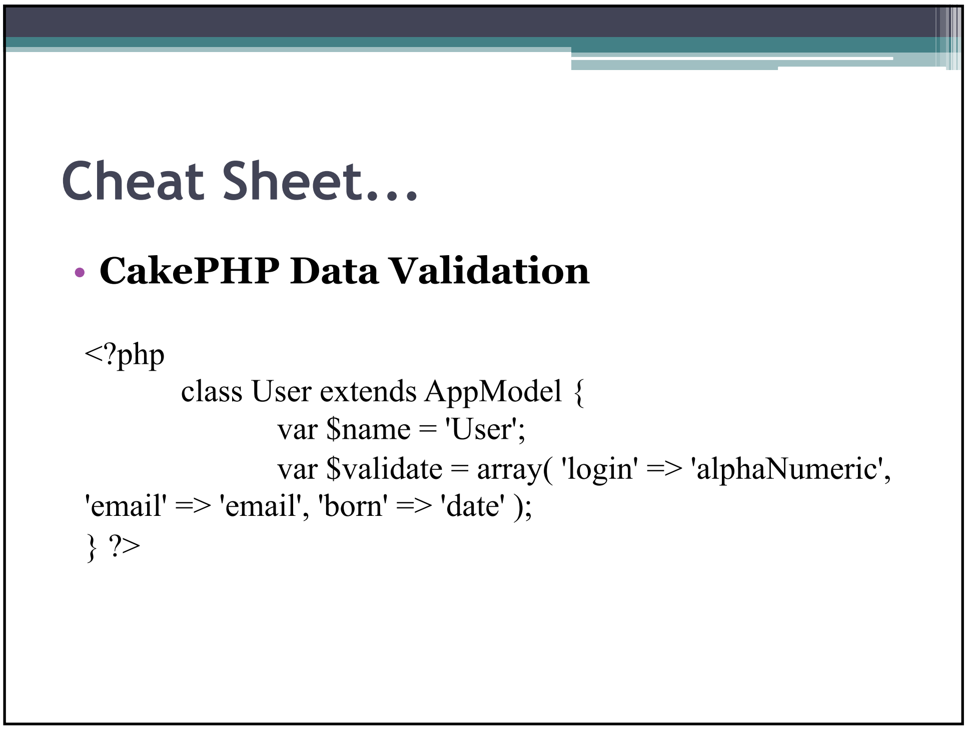
50



Cheat Sheet...

- $here = null
- $layout = 'default'
- $output = null
- $pageTitle = false
- $params = array()
- $persistModel = false
- $plugin = null
- $uses = false
- $view = 'View'
- $viewPath = null
- $webroot = null
- $_viewClass = null
- $_viewVars = array()

51

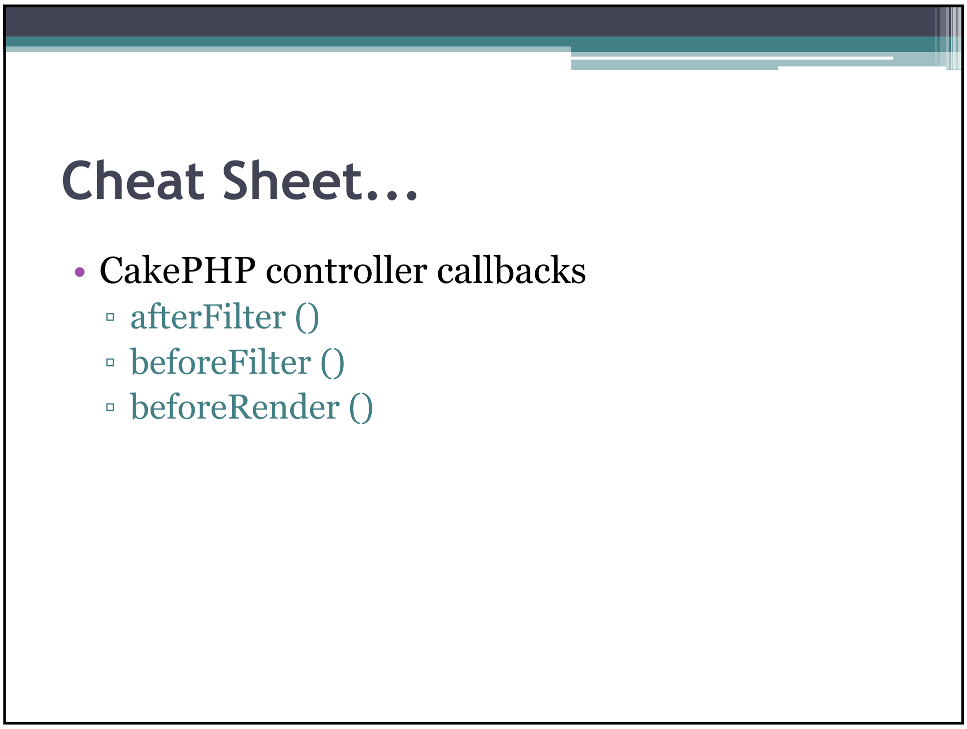


Cheat Sheet...

- **CakePHP Data Validation**

```
<?php
        class User extends AppModel {
                var $name = 'User';
                var $validate = array( 'login' => 'alphaNumeric',
'email' => 'email', 'born' => 'date' );
} ?>
```

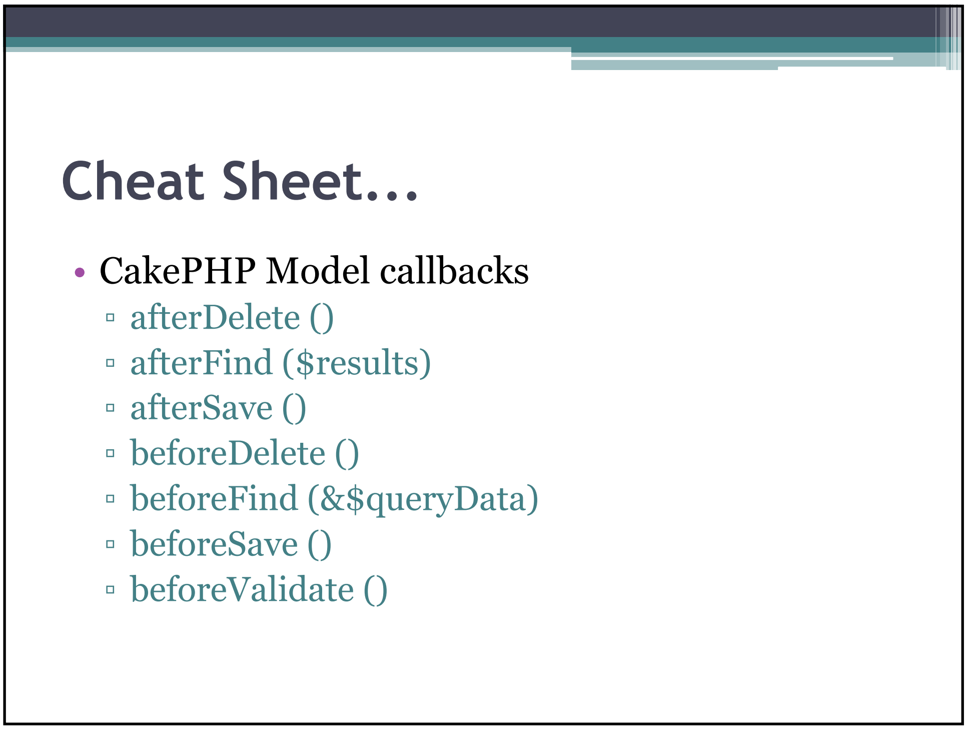
52



Cheat Sheet…

- CakePHP controller callbacks
  - afterFilter ()
  - beforeFilter ()
  - beforeRender ()

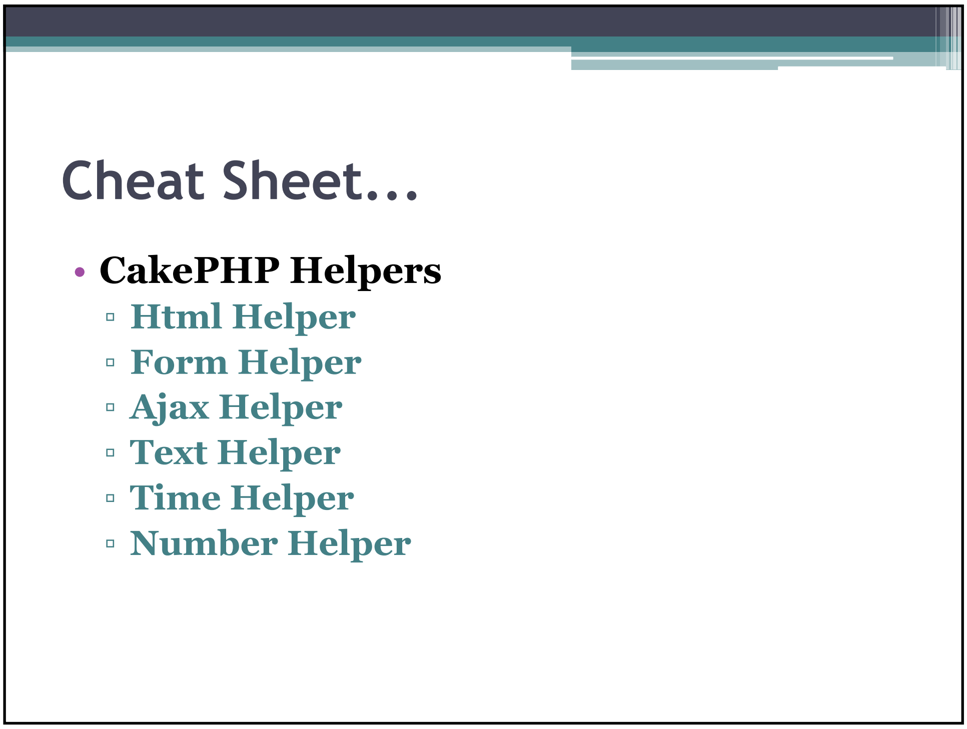
53



Cheat Sheet…

- CakePHP Model callbacks
  - afterDelete ()
  - afterFind ($results)
  - afterSave ()
  - beforeDelete ()
  - beforeFind (&$queryData)
  - beforeSave ()
  - beforeValidate ()

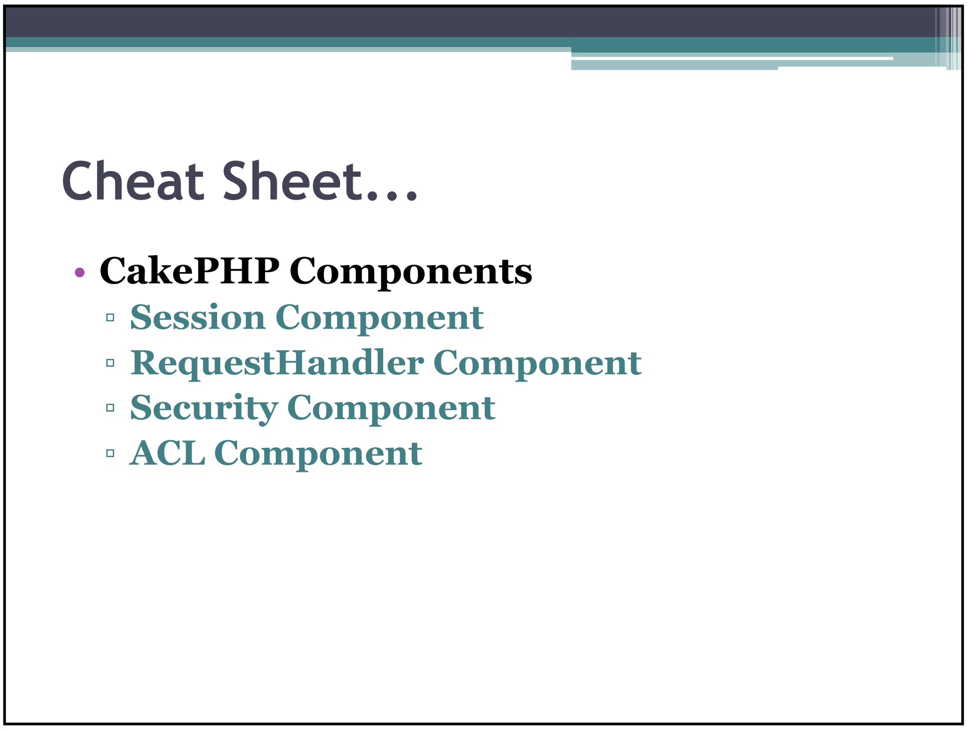
54



Cheat Sheet…

- **CakePHP Helpers**
  - Html Helper
  - Form Helper
  - Ajax Helper
  - Text Helper
  - Time Helper
  - Number Helper

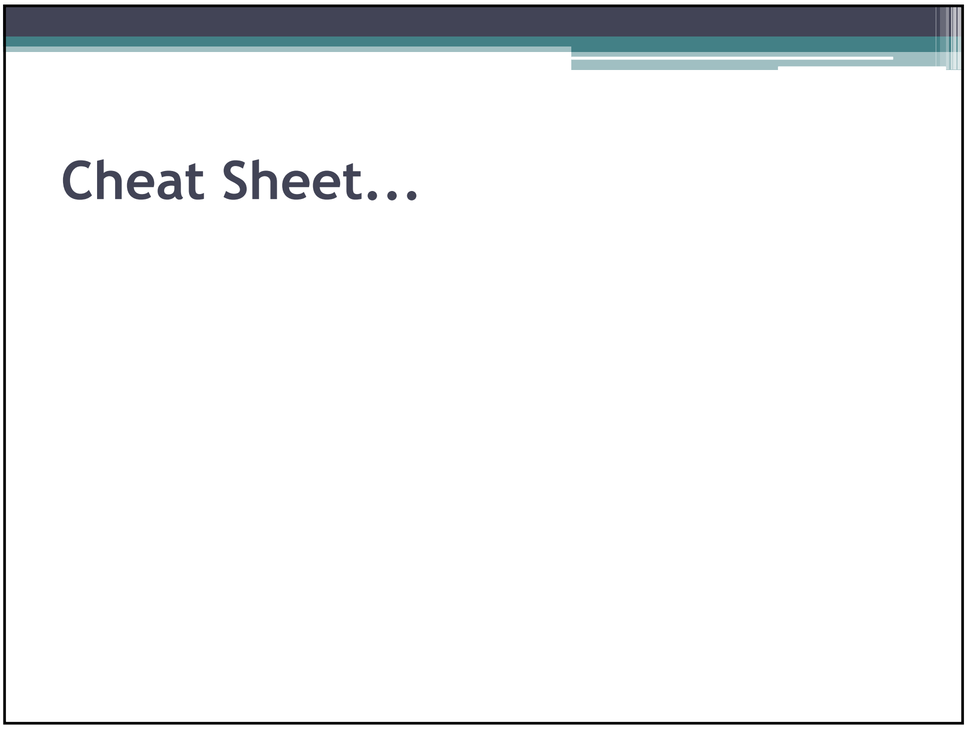
55



Cheat Sheet…

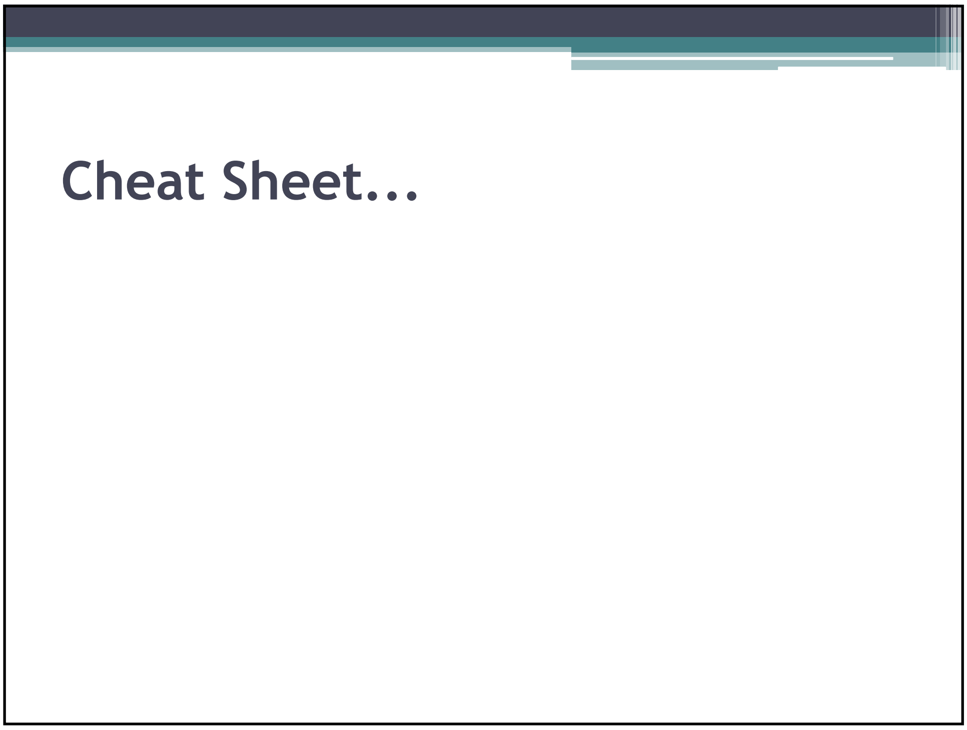
- **CakePHP Components**
  - Session Component
  - RequestHandler Component
  - Security Component
  - ACL Component

56



Cheat Sheet...

57



Cheat Sheet...

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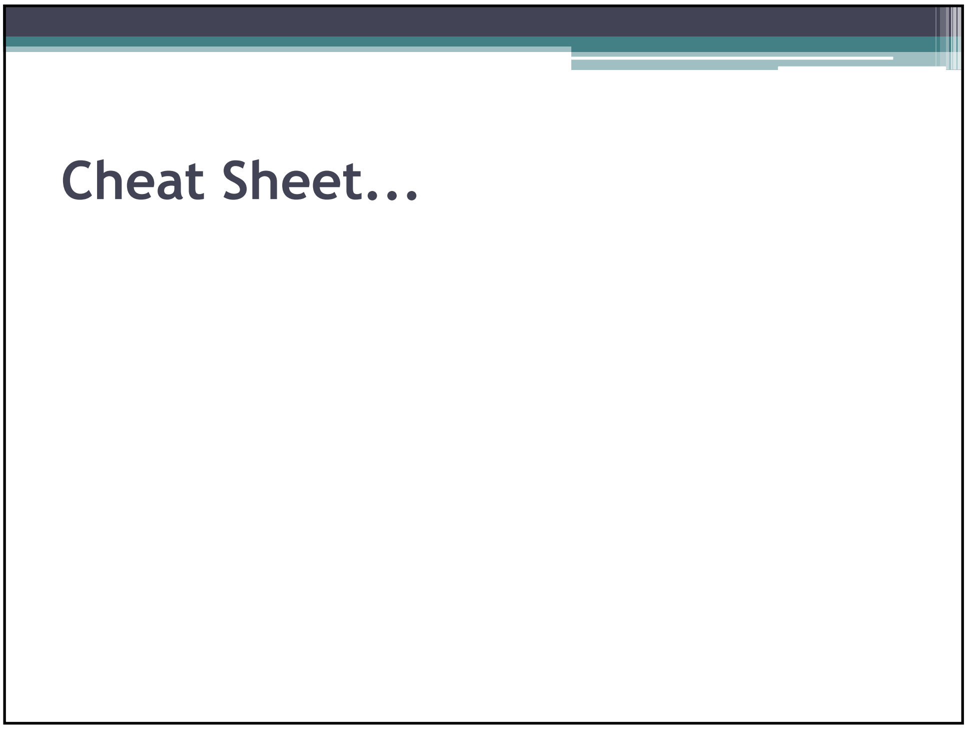
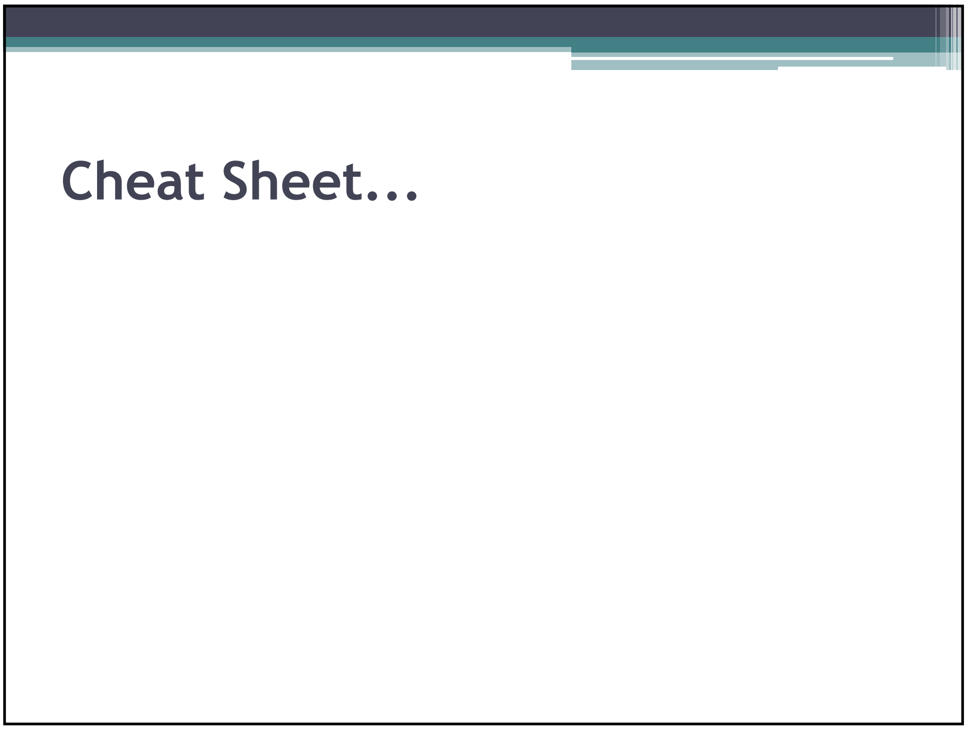


Cheat Sheet...

59



Cheat Sheet...

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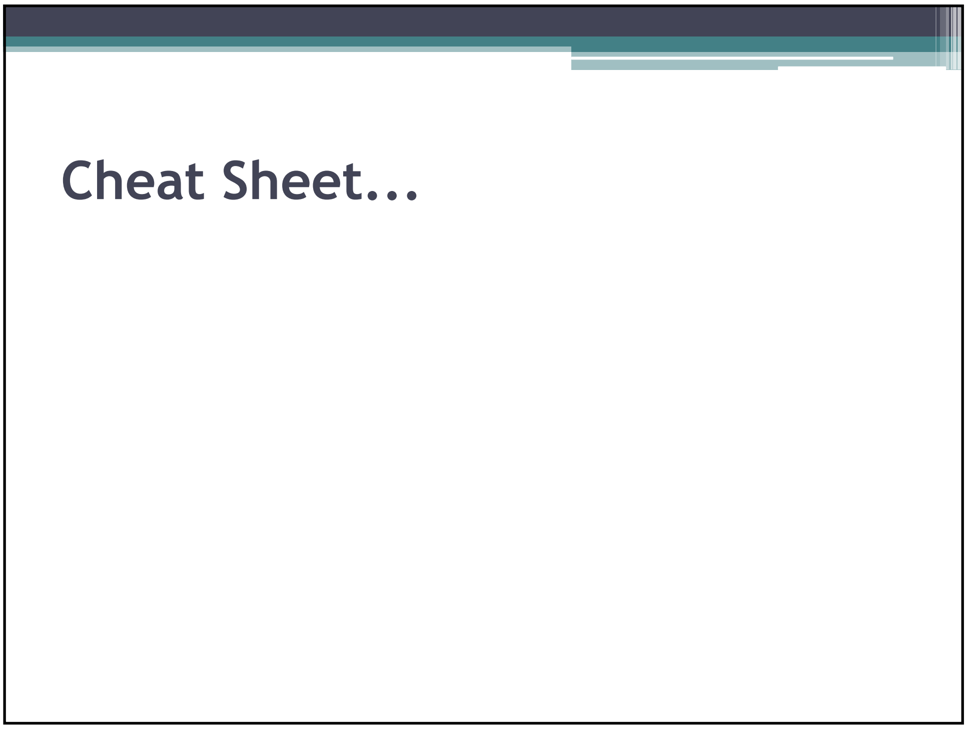
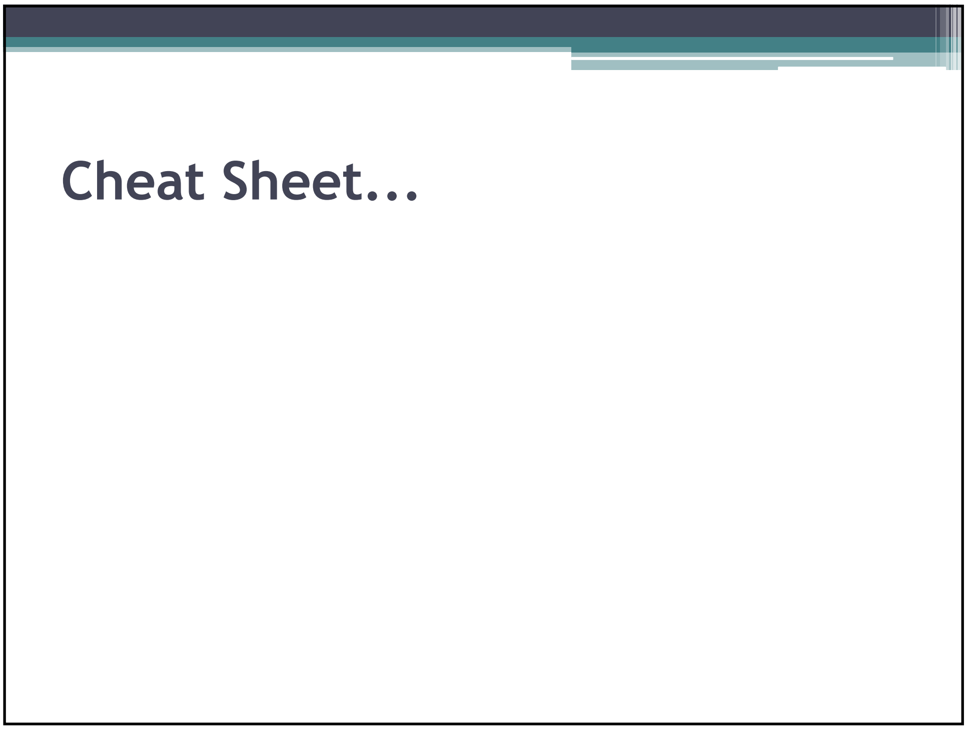


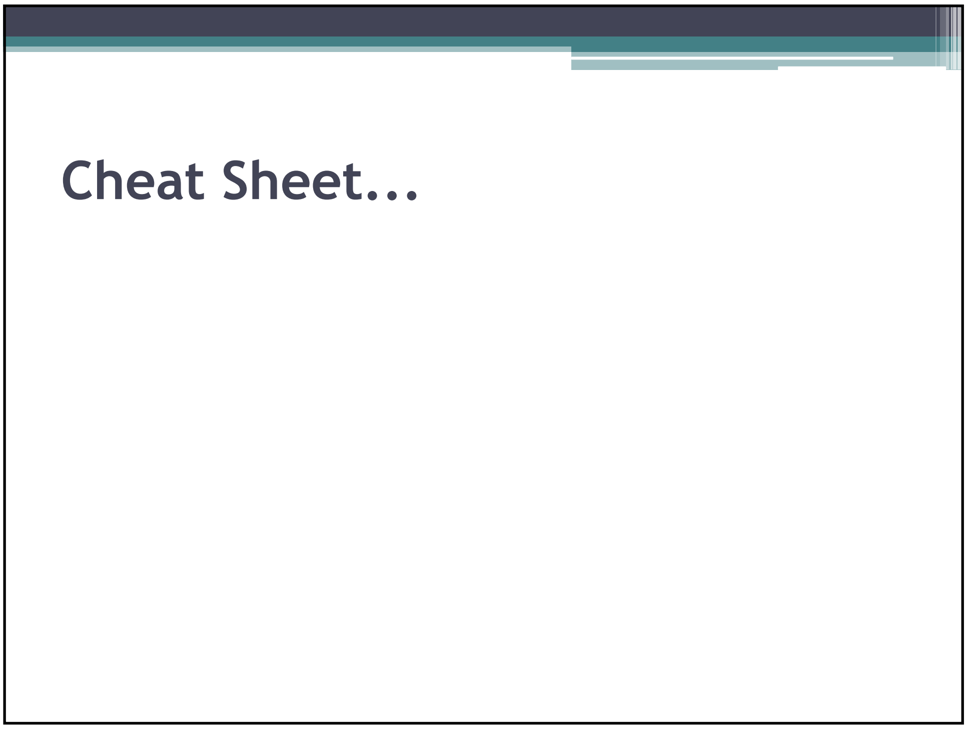
Cheat Sheet...

61



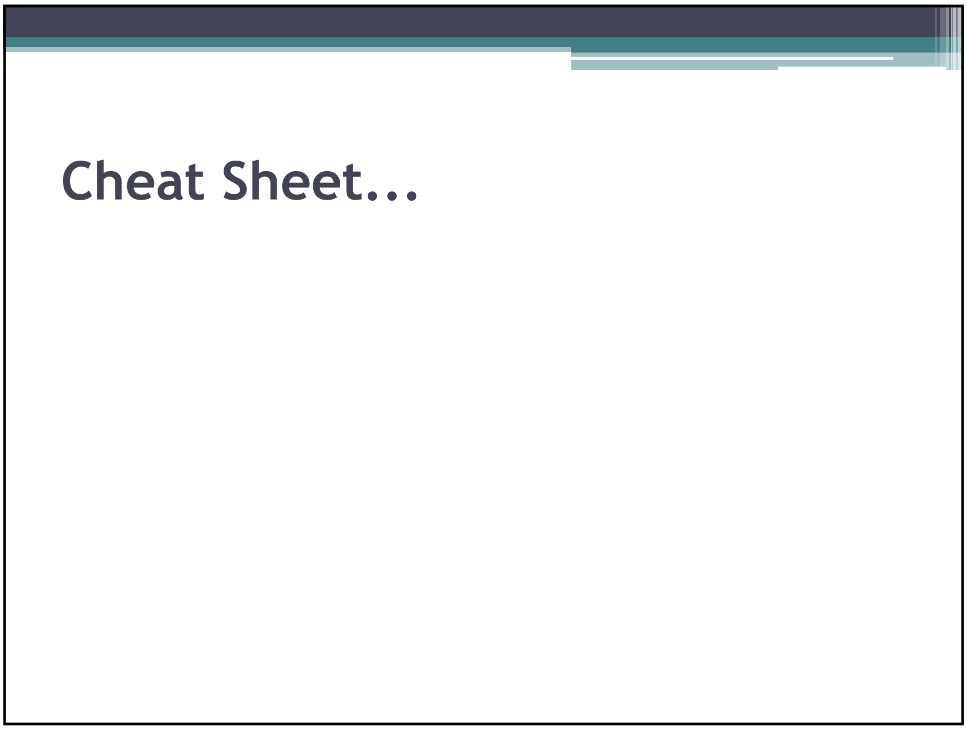
Cheat Sheet...

62



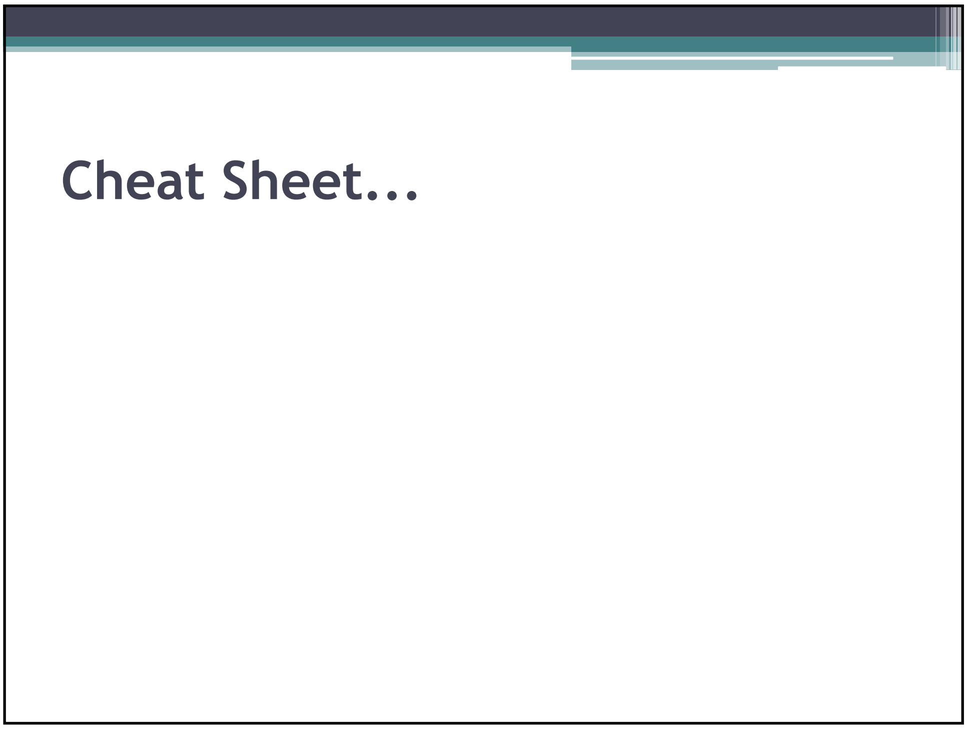
Cheat Sheet...

63



Cheat Sheet...

64



Cheat Sheet...

65