

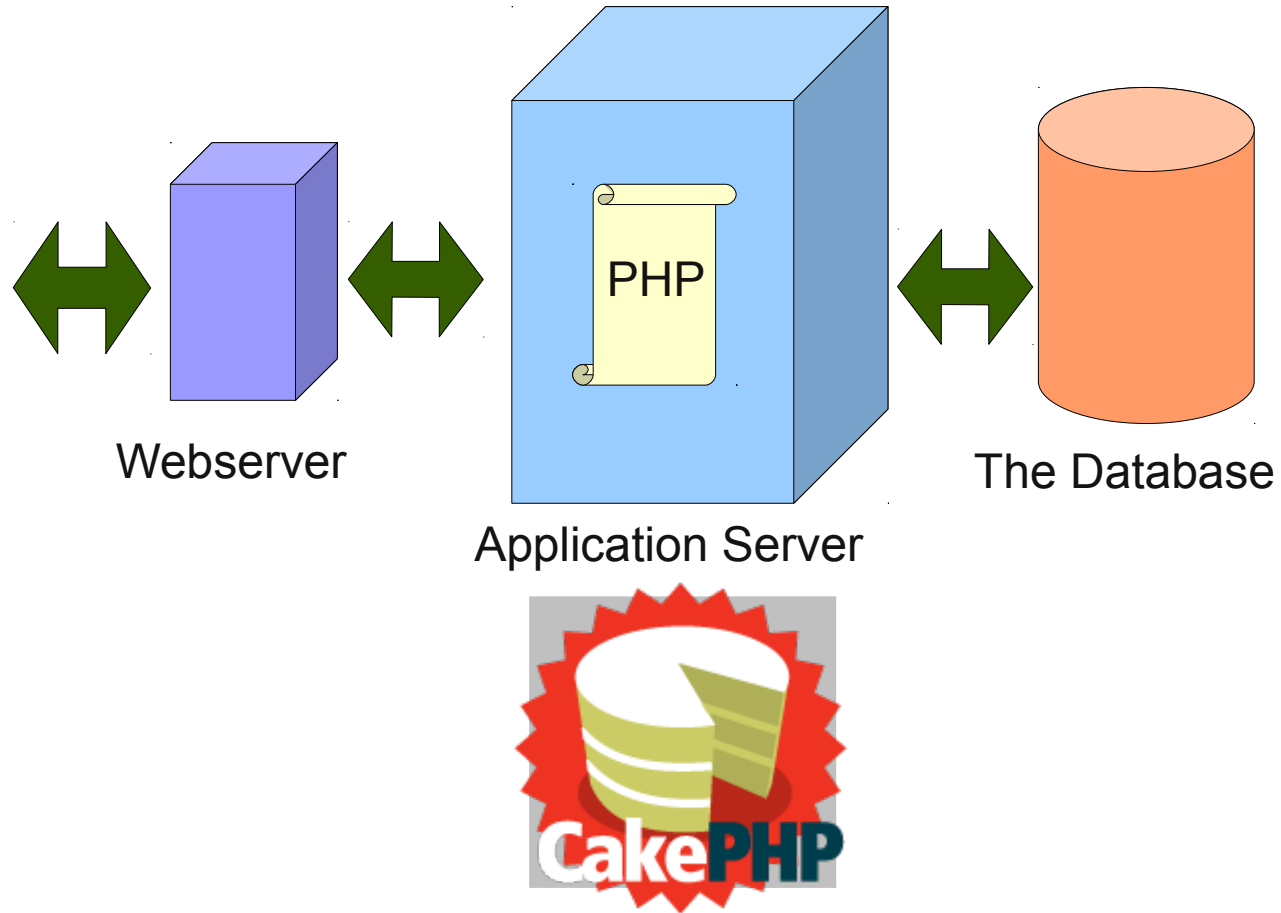
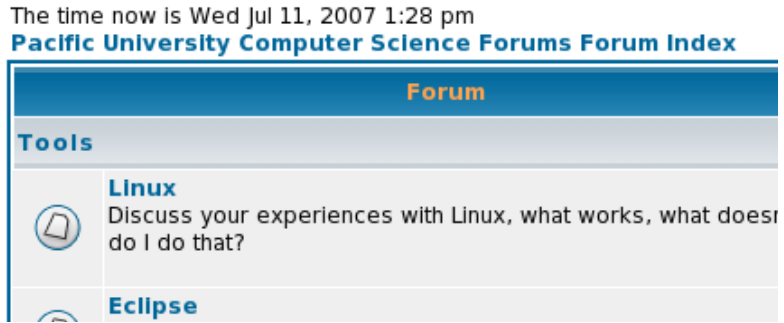
Web Application Server CakePHP

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www.cakephp.org
<http://book.cakephp.org/>

More Complicated Database Usage Scenario



Application Server

- The Application server helps put your code into the Model-View-Controller Design Pattern
 - Model: the data
 - View: display the data
 - Controller: connect them
- Helps to build some SQL commands
 - further separates you from the database
- M: Write code to produce a single row of data (many ways)
- V: Write code to display a single row of data (many ways)
- C: Mix and match!

CakePHP

- Application Server for small to medium size web sites
 - Easy to install and configure!
 - Great on-line tutorial
 - Free!
-
- I was able to get up and running in two afternoons

Example

- We have data in a MySQL database

```
mysql> select * from employees;
+----+-----+-----+-----+
| id | FName      | LName      | ...  |
+----+-----+-----+-----+
|  1 | Emerald    | Wilkerson  | .... |
```

- We want to display the data in different ways
 - filter differently
- Naming conventions!
 - in order to cut down on config files, CakePHP relies on standard naming conventions.
 - <http://book.cakephp.org/view/901/CakePHP-Conventions>

Model app/models/employee.php

```
class Employee extends AppModel
{
    // var $name = 'employees';           // unnecessary if
                                         // the naming conventions are used.
    var $useDbConfig = 'a1';             // from database.php

    function findFirst()
    {
        return $this->find('first');
    }

    function findLowestSalary()
    {
        return $this->find('first',
            array('order'=>array('salary ASC')));
    }

    function findHighestSalary()
    {
        return $this->find('first',
            array('order'=>array('salary DESC')));
    }
}
```

**Three ways to
produce one row
from table
employee**

Model employee.php

```
function findManagers()
{
    // select employees.*
    // from employees, software
    // where employees.id = Manager
    // order by id ASC;

    $options['joins'] = array
    (
        array
        (
            'table' => 'software',
            /* 'alias' => 'newName', */
            /* specify alias to rename the table software*/

            /* 'type' => 'LEFT', */
            /* don't specify type so use a plain join */
            'conditions' => array(
                'Employee.id = software.Manager',
            )
        )
    );
    $options['order'] = array('id ASC');
    return $this->find('all', $options);
}
```

```
SELECT *
FROM `employees` AS `Employee`
    JOIN `software`
    ON (`Employee`.`id` =
        `software`.`Manager`)
WHERE 1 = 1
ORDER BY `id` ASC
```

View app/views/employees/index_single.ctp

```
<tr>
  <td>
    <?php echo $theData ['Employee'] ['id']; ?>
  </td>
  <td>
    <?php echo $theData ['Employee'] ['FName'] ?>
  </td>
  <td>
    <?php echo $theData ['Employee'] ['LName'] ?>
  </td>
  <td>
    <?php echo $theData ['Employee'] ['Phone'] ?>
  </td>
  <td>
    <?php echo $theData ['Employee'] ['Email'] ?>
  </td>
  <td>
    <?php echo $theData ['Employee'] ['Salary'] ?>
  </td>
</tr>
```

Display one row of data

view index.ctp

```
<?php foreach ($theData as $employee): ?>
  <tr>
    <td><?php echo $employee['Employee']['id']; ?></td>
    <td><?php echo $employee['Employee']['FName']; ?></td>
    <td><?php echo $employee['Employee']['LName']; ?></td>
    <td><?php echo $employee['Employee']['Phone']; ?></td>
    <td><?php echo $employee['Employee']['Email']; ?></td>
    <td><?php echo $employee['Employee']['Salary']; ?></td>
  </tr>
<?php endforeach; ?>
```

Controller app/controllers/employees_controller.php

```
class EmployeesController extends ApplicationController {  
  
    // var $name = 'employees'; // not necessary  
  
    function index() { // default  
        // employees is the name of the variable to be set in the  
        // view that is used to display the result of find('all');  
  
        $this->set('theData', $this->Employee->find('all'));  
        // implicitly invoke index.ctp  
    }  
  
    function lowestSalary() {  
        $this->set('theData', $this->Employee->findLowestSalary());  
        $this->render('index_single');  
    }  
  
    function highestSalary() {  
        $this->set('theData', $this->Employee->findHighestSalary());  
        $this->render('index_single');  
    }  
}
```

Controller employees_controller.php

```
function salaryChartAll()
{
    $this->set('filter', 'All');

    $this->set('theData', $this->Employee->find('all'));
    $this->render('salary_chart');
}

function salaryChartManagers()
{
    $this->set('filter', 'Manager');

    $this->set('theData', $this->Employee->findManagers());
    $this->render('salary_chart');
}

function view($id) {
    $this->Employee->id = $id;
    $this->set('theData', $this->Employee->read());
    // implicitly invokes view.ctp
}
```

URLs

- `https://gray.cs.pacificu.edu/chadd/cake/Employees
EmployeesController->index()`
- `https://gray.cs.pacificu.edu/chadd/cake/Employees/view/2
EmployeesController->view(2)`
- `https://gray.cs.pacificu.edu/chadd/cake/Employees/highestSalary
EmployeesController->highestSalary()`
- `https://gray.cs.pacificu.edu/chadd/cake/Employees/salaryChartAll
EmployeesController->salaryChartAll()`

URLs

<https://gray/chadd/A1/Employees/salaryChartManagers>

<https://gray/chadd/A1/Employees/salaryChartAll>

Nuts & Bolts

- Configure database access
 - app/config/database.php
- cake/libs/view/layouts/default.ctp
 - wraps around your view
- app/webroot
 - space for .html files

```
class DATABASE_CONFIG {  
  
    var $default = array(  
        'driver' => 'mysql',  
        'persistent' => false,  
        'host' => 'localhost',  
        'login' => 'chadd',  
        'password' => 'xxxxx',  
        'database' => 'chadd_a1',  
        'prefix' => "",  
  
    );  
  
    var $a1 = array(  
        'driver' => 'mysql',  
        'persistent' => false,  
        'host' => 'localhost',  
        'login' => 'chadd',  
        'password' => 'xxxxx',  
        'database' => 'chadd_a1',  
        'prefix' => "",  
  
    );  
}
```

Exercise

- I've put cake in /space/https/PUNetID/cake
 - done the configuration that needs root access
 - make cake/tmp writeable by the webserver
 - user wwwrun
- New database: PUNetID_cake_a1

```
mysql> use PUNetID_cake_a1;
mysql> source /tmp/cake_a1.sql;
mysql> show tables;
```
- Edit /space/https/PUNetID/cake/app/config/database.php
- Edit cake/app/config/core.php
 - Security.salt
 - Security.cipherSeed



<https://gray/PUNetID/cake>

Exercise

- Add a Model
 - cake/app/models/software.php
 - produce all software
 - produce first, alphabetically
 - produce last, alphabetically
- Add a View
 - cake/app/views/software/index.ctp (display many rows)
 - cake/app/views/software/single.ctp (display one row)
- Add a controller
 - cake/app/controllers/software_controller.php