

Principles and Techniques of DBMS 2

PHP Applications

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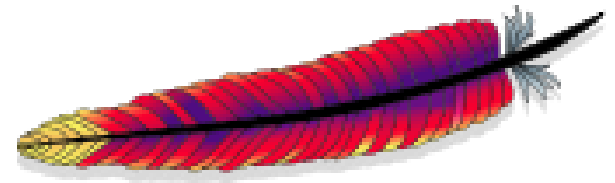
Shanghai, China

<http://reins.se.sjtu.edu.cn/~chenhp>

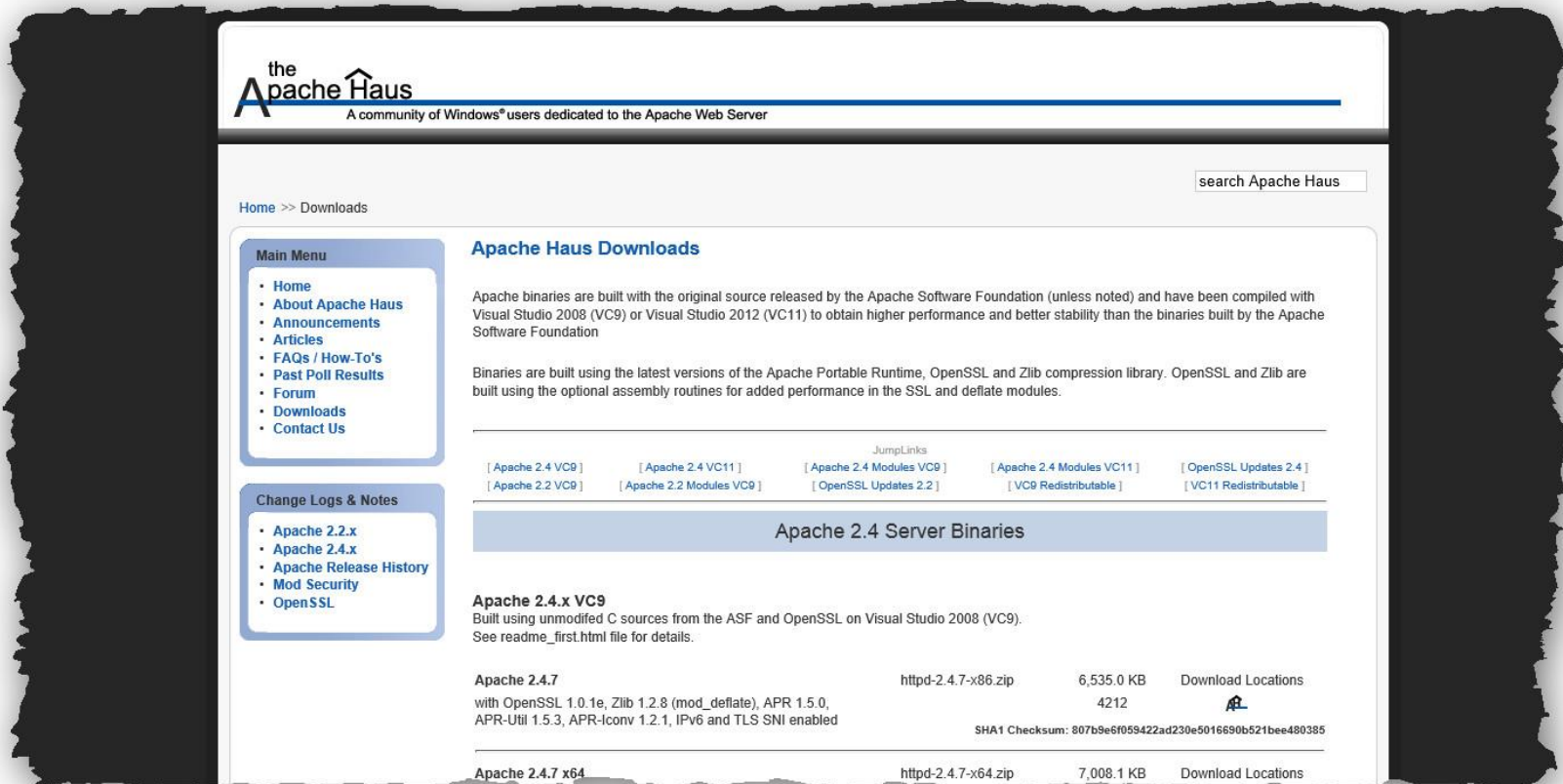
e-mail: chen-hp@sjtu.edu.cn

- PHP & Apache HTTP Server
 - Deploying,
 - Configuring,
 - and Testing of PHP & Apache HTTP Server
- Access RDBMS via PHP
 - Get connection
 - Develop PHP in Eclipse
 - Execute SQL statement
- PHP + jQuery
- Yii Framework

- **The Apache HTTP Server**
 - commonly referred to as **Apache** (/ə'pætʃi:/ ə-PA-chee)
 - is a web server application notable for playing a key role in the initial growth of the World Wide Web User enters interacts with a web page.
- The Apache HTTP Server Project itself does not provide binary releases of software, only source code.
 - You can obtain a binary package from numerous binary distributions available on the Internet.
 - Popular options for deploying Apache httpd, and, optionally, PHP and MySQL, on Microsoft Windows, include:
 - [ApacheHaus](#)
 - [Apache Lounge](#)
 - [BitNami WAMP Stack](#)
 - [WampServer](#)
 - [XAMPP](#)



- Download a binary version
 - Unzip it on your disk



The screenshot shows the Apache Haus website, a community of Windows users dedicated to the Apache Web Server. The page is titled "Apache Haus Downloads" and provides information about downloading Apache binaries. It includes a main menu, a search bar, and a section for "Apache 2.4 Server Binaries".

Apache Haus Downloads

Apache binaries are built with the original source released by the Apache Software Foundation (unless noted) and have been compiled with Visual Studio 2008 (VC9) or Visual Studio 2012 (VC11) to obtain higher performance and better stability than the binaries built by the Apache Software Foundation.

Binaries are built using the latest versions of the Apache Portable Runtime, OpenSSL and Zlib compression library. OpenSSL and Zlib are built using the optional assembly routines for added performance in the SSL and deflate modules.

Apache 2.4 Server Binaries

Apache 2.4.x VC9
Built using unmodified C sources from the ASF and OpenSSL on Visual Studio 2008 (VC9).
See readme_first.html file for details.

Platform	Download Link	Size	Download Locations
Apache 2.4.7 with OpenSSL 1.0.1e, Zlib 1.2.8 (mod_deflate), APR 1.5.0, APR-Util 1.5.3, APR-Iconv 1.2.1, IPv6 and TLS SNI enabled	httpd-2.4.7-x86.zip	6,535.0 KB 4212	Download Locations
Apache 2.4.7 x64	httpd-2.4.7-x64.zip	7,008.1 KB	Download Locations

SHA1 Checksum: 807b9e6f059422ad230e5016690b521bee480385

- Append the followings to `conf/httpd.conf`

```
PHPIniDir "E:/php-5.5.8/"
```

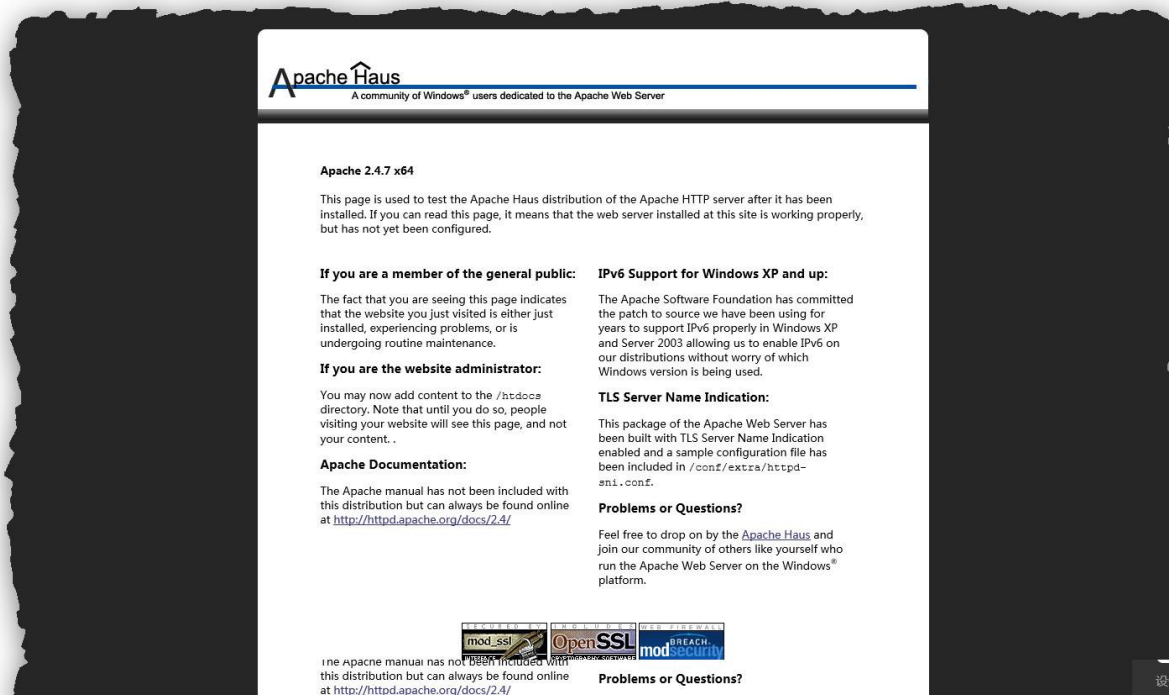
```
LoadModule php5_module "E:/php-5.5.8/php5apache2_4.dll"
```

```
AddType application/x-httpd-php .php
```

– where,

- `PHPIniDir` is the directory of PHP home.
- `LoadModule` is in the directory of PHP home, which allows the support to PHP is loaded as a module of Apache HTTP Server.

- Run `bin/httpd.exe`
 - The Apache HTTP Server will be running in a command window.
- Browse `http://localhost`
 - If the Apache HTTP Server is correctly deployed, you will see:

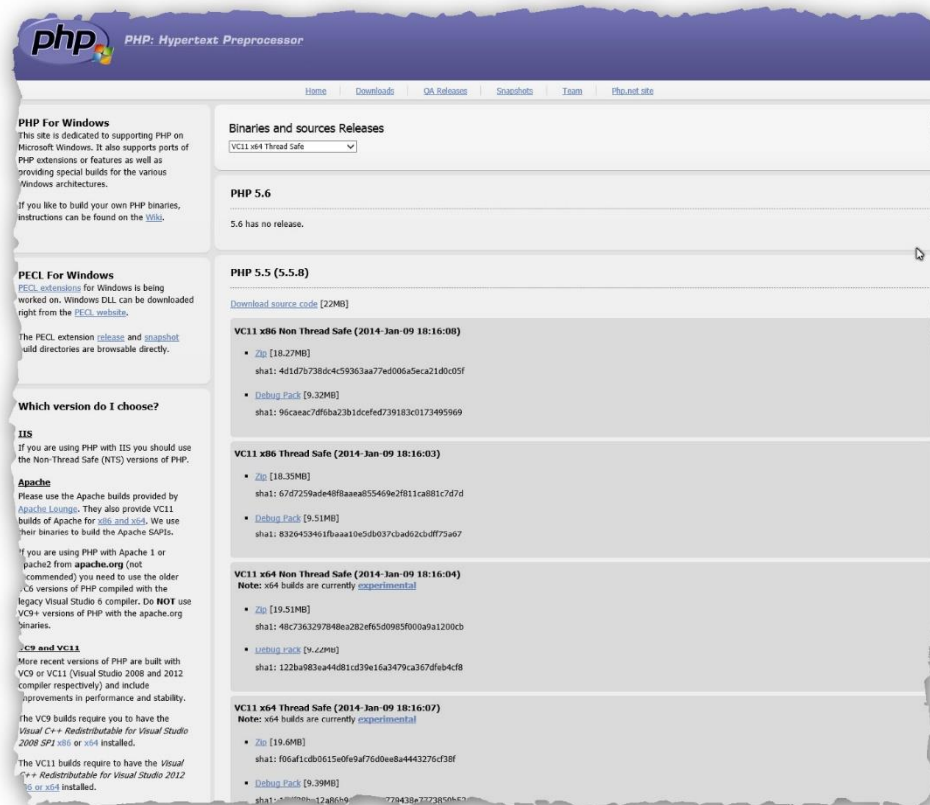


- PHP
 - Hypertext Preprocessor
 - PHP is a popular general-purpose scripting language that is especially suited to web development.
 - Fast, flexible and pragmatic, PHP powers everything from your blog to the most popular websites in the world.

From <http://www.php.net/>



- Download a binary version
 - <http://windows.php.net/download/>
 - php-5.5.8-Win32-VC11-x64.zip (VC11 x64 Thread Safe)
 - Unzip it on your disk



- Rename `php.ini-production` to `php.ini`
- Modify the followings in `php-5.5.8/php.ini`

```
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Paths and Directories ;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; On windows:
extension_dir = "E:/php-5.5.8/ext"
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Dynamic Extensions ;
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
; Windows Extensions
extension=php_curl.dll
extension=php_gd2.dll
extension=php_mbstring.dll
extension=php_mysql.dll
extension=php_mysqli.dll
extension=php_pdo_mysql.dll
extension=php_pdo_odbc.dll
extension=php_xmldrpc.dll
[Session]
session.save_path = "E:/php-5.5.8/tmp"; // this directory needs to be writeable
```

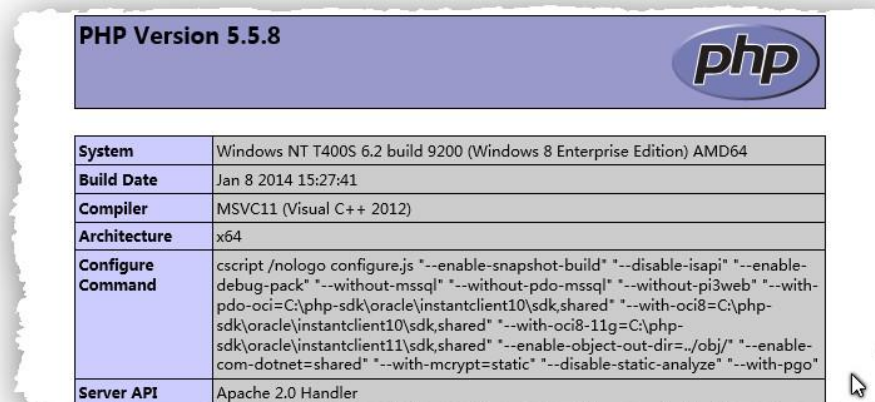
- Environment Variable
 - Add an entry to Path
 - PHP_HOME/ext
 - For example:
 - E:/php-5.5.8/ext

- Copy `php5ts.dll` to `system32`

- Edit `test.php` and deploy it into `Apache_HOME/htdocs`

```
<html>
  <head><title>test</title></head>
  <body>
    <?php  phpinfo();?>
  </body>
</html>
```

- Browse `http://localhost/test.php`
 - If the PHP is correctly deployed, you will see:

A screenshot of the PHP information page for version 5.5.8. The page has a purple header with the PHP logo. Below the header is a table with system and configuration details.

PHP Version 5.5.8	
System	Windows NT T400S 6.2 build 9200 (Windows 8 Enterprise Edition) AMD64
Build Date	Jan 8 2014 15:27:41
Compiler	MSVC11 (Visual C++ 2012)
Architecture	x64
Configure Command	cscrip /nologo configure.js "--enable-snapshot-build" "--disable-isapi" "--enable-debug-pack" "--without-mssql" "--without-pdo-mssql" "--without-pi3web" "--with-pdo-oci=C:\php-sdk\oracle\instantclient10\sdk,shared" "--with-oci8=C:\php-sdk\oracle\instantclient10\sdk,shared" "--with-oci8-11g=C:\php-sdk\oracle\instantclient11\sdk,shared" "--enable-object-out-dir=../obj/" "--enable-com-dotnet=shared" "--with-mcrypt=static" "--disable-static-analyze" "--with-pgo"
Server API	Apache 2.0 Handler

- Edit testDB.php and deploy it into Apache_HOME/htdocs

```
<html>
  <head><title>test</title></head>
  <body>
    <?php
      $dbhost = 'localhost'; //the ip of RDBMS server
      $dbuser = 'root'; //username
      $dbpassword= '12345678'; //password
      $connect = mysql_connect($dbhost,$dbuser,$dbpassword);
      if ($connect) {
        echo 'Succeed!<br>';
      } else {
        echo 'Failed!<br>';
      }

      $dbname = 'sample_one'; //the name of DB
      $db = mysql_select_db($dbname);
      if ($db) {
        echo 'Succeed!';
      } else {
        echo 'Failed!';
      }

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

- Create database `sample_one` in MySQL.
- Browse <http://localhost/test.php>
 - If all the configuration are correct, you will see:



- Append the followings to `conf/httpd.conf`

```
Alias /Workspace/ "E:/Projects/PHP/"
```

```
<Directory "E:/Projects/PHP/">
```

```
    Options Indexes MultiViews
```

```
    AllowOverride None
```

```
    Require all granted
```

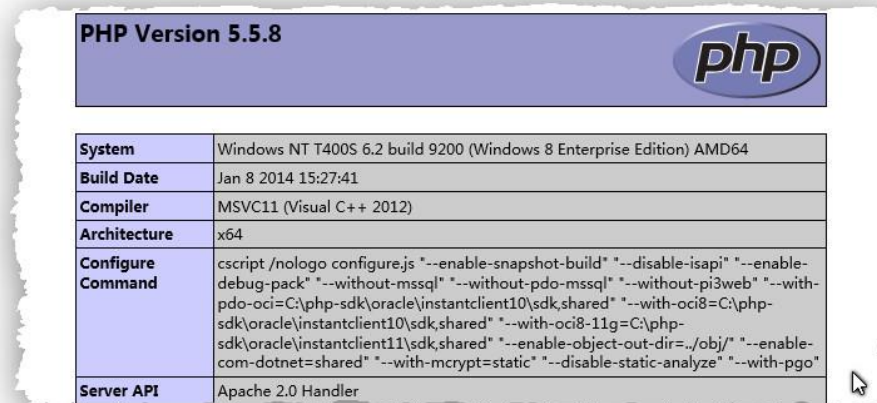
```
</Directory>
```

- where,
 - `Workspace` is the alias of the workspace of Eclipse.

- Window->Preferences->PHP->PHP Executables->Add
 - Name: PHP 5.5.8
 - Executable Path: E:/PHP-5.5.8/php.exe
 - PHP ini file(optional): D:/PHP-5.5.8/php.ini
 - PHP debugger: Zend Debugger
- Window->Preferences->PHP->PHP Server
 - Change Default PHP Web Server to <http://localhost/Workspace>
 - Where
 - `Workspace` is the alias configured in `conf/httpd.conf`

- New a project `HelloWorld`
- Edit `test.php`

```
<?php
    phpinfo();
?>
```
- Right Click on `test.php` and Run as ->PHP Web Page
 - The URL will be `http://localhost/Workspace/HelloWorld/test.php`

A screenshot of the PHP configuration window for version 5.5.8. The window has a purple header with the PHP logo and the text 'PHP Version 5.5.8'. Below the header is a table with system and configuration details.

PHP Version 5.5.8	
System	Windows NT T400S 6.2 build 9200 (Windows 8 Enterprise Edition) AMD64
Build Date	Jan 8 2014 15:27:41
Compiler	MSVC11 (Visual C++ 2012)
Architecture	x64
Configure Command	cscrip /nologo configure.js "--enable-snapshot-build" "--disable-isapi" "--enable-debug-pack" "--without-mssql" "--without-pdo-mssql" "--without-pi3web" "--with-pdo-oci=C:\php-sdk\oracle\instantclient10\sdk,shared" "--with-oci8=C:\php-sdk\oracle\instantclient10\sdk,shared" "--with-oci8-11g=C:\php-sdk\oracle\instantclient11\sdk,shared" "--enable-object-out-dir=../obj/" "--enable-com-dotnet=shared" "--with-mcrypt=static" "--disable-static-analyze" "--with-pgo"
Server API	Apache 2.0 Handler

- Get connection:

```
$dbhost = 'localhost'; //the ip of RDBMS server
$dbuser = 'root'; //username
$dbpassword= '12345678'; //password
$connect = mysql_connect($dbhost,$dbuser,$dbpassword);
```
- Select a database:

```
$dbname = 'sample_one'; //the name of DB
$db = mysql_select_db($dbname);
```
- Execute SQL statement:

```
$mysql_command = <statement>;
$result = mysql_query($mysql_command);
```
- Create a database:

```
$mysql_command = "create database testDB";
```
- Drop a database:

```
$mysql_command = "drop database if exists testDB";
```

- Create a table:

```
$mysql_command = "create table testOne (  
    id int not null primary key auto_increment,  
    column1 varchar(128))";
```
- Drop a table:

```
$mysql_command = "drop table testOne";
```
- Get server information:

```
echo mysql_get_server_info();
```
- Close connection:

```
mysql_close($connect);
```
- `die()` and `mysql_error()`:

```
$result = mysql_query($mysql_command)  
        or die(mysql_error());
```
- Client encoding:

```
mysql_client_encoding();
```

- Create records:

```
$count = 10;
while($count >= 1){
    $mysql_command = "insert into `testOne` values
        ($count, 'Zhang San{$count}')";
    $result = mysql_query($mysql_command);
    $count --;
}
```

- Retrieve records:

```
$mysql_command = "select * from testOne";
$result = mysql_query($mysql_command);
while($row = mysql_fetch_object($result)){
    echo json_encode($row);
    echo '<br>';
}
```

- Update records:

```
$mysql_command = "update testOne set name = 'Zhang San 5'
                  WHERE id <= 10 or id >=1";
```

- Delete records:

```
$mysql_command = "delete from testOne WHERE id = 10";
```

- Error information:

```
mysql_error()
mysql_errno()
```

- Persistent connection:

```
$connect = mysql_pconnect($dbhost,$dbuser,$dbpassword);
```

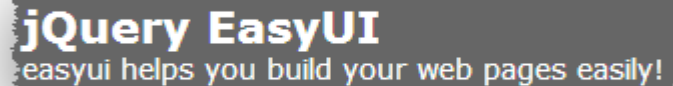
- Other functions

- <http://www.w3school.com.cn/php/index.asp>

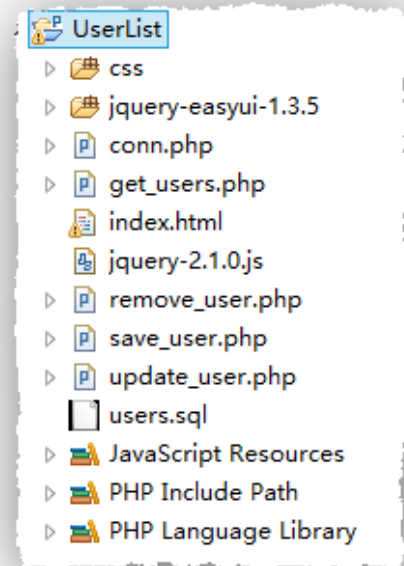
- jQuery
 - is a fast, small, and feature-rich JavaScript library.
 - jQuery v2.1.0



- jQuery EasyUI framework
 - helps you build your web pages easily
 - jQuery EasyUI v1.3.5



- New a PHP project in Eclipse
 - The structure of project is as the left figure
- This is a demo given by jQuery EasyUI
 - You can download it at [demo](#)



- `index.html`

```
<title>jQuery EasyUI CRUD Demo</title>
<link rel="stylesheet" type="text/css" href="css/easyui.css">
<link rel="stylesheet" type="text/css" href="css/icon.css">
<link rel="stylesheet" type="text/css" href="css/demo.css">
```

- index.html

```
<script type="text/javascript" src="jquery-2.1.0.js"></script>
<script type="text/javascript" src="jquery-easyui-1.3.5/jquery.easyui.min.js"></script>

<script type="text/javascript">
    var url;
    function newUser(){
        $('#dlg').dialog('open').dialog('setTitle','New User');
        $('#fm').form('clear');
        url = 'save_user.php';
    }

    function editUser(){
        var row = $('#dg').datagrid('getSelected');
        if (row){
            $('#dlg').dialog('open').dialog('setTitle','Edit User');
            $('#fm').form('load',row);
            url = 'update_user.php?id='+row.id;
        }
    }
}
```

- index.html

```
function saveUser(){
    $('#fm').form('submit',{
        url: url,
        onSubmit: function(){
            return $(this).form('validate');
        },
        success: function(result){
            var result = eval('(' + result + ')');
            if (result.success){
                $('#dlg').dialog('close');
                $('#dg').datagrid('reload');
            } else {
                $.messager.show({
                    title: 'Error',
                    msg: result.msg
                });
            }
        }
    });
}
```


- index.html

```
function removeUser(){
    var row = $('#dg').datagrid('getSelected');
    if (row){
        $.messager.confirm('Confirm','Are you sure you want to
            remove this user?',function(r){
                if (r){
                    $.post('remove_user.php',{id:row.id},function(result){
                        if (result.success){
                            $('#dg').datagrid('reload');
                        } else {
                            $.messager.show({
                                title: 'Error', msg: result.msg
                            });
                        }
                    },'json');
                }
            });
    }
}
```

</script>

- conn.php

```
<?php
```

```
$conn = @mysql_connect('127.0.0.1', 'root', '12345678');  
if (!$conn) {  
    die('Could not connect: ' . mysql_error());  
}  
mysql_select_db('sample_one', $conn);
```

```
?>
```

- save_user.php

```
<?php
```

```
$firstname = $_REQUEST['firstname'];  
$lastname = $_REQUEST['lastname'];  
$phone = $_REQUEST['phone'];  
$email = $_REQUEST['email'];  
  
include 'conn.php';  
  
$sql = "insert into users(firstname,lastname,phone,email)  
      values('$firstname','$lastname','$phone','$email')";  
$result = @mysql_query($sql);  
if ($result){  
    echo json_encode(array('success'=>true));  
} else {  
    echo json_encode(array('msg'=>'Some errors occurred.'));  
}
```

```
?>
```

- `remove_user.php`

```
<?php
```

```
    $id = intval($_REQUEST['id']);
```

```
    include 'conn.php';
```

```
    $sql = "delete from users where id=$id";
```

```
    $result = @mysql_query($sql);
```

```
    if ($result){
```

```
        echo json_encode(array('success'=>true));
```

```
    } else {
```

```
        echo json_encode(array('msg'=>'Some errors occurred.'));
```

```
    }
```

```
?>
```

- `update_user.php`

```
<?php
```

```
$id = intval($_REQUEST['id']);  
$firstname = $_REQUEST['firstname'];  
$lastname = $_REQUEST['lastname'];  
$phone = $_REQUEST['phone'];  
$email = $_REQUEST['email'];  
  
include 'conn.php';  
$sql = "update users set firstname='$firstname',lastname='$lastname',  
        phone='$phone',email='$email' where id=$id";  
$result = @mysql_query($sql);  
if ($result){  
    echo json_encode(array('success'=>true));  
} else {  
    echo json_encode(array('msg'=>'Some errors occurred.'));  
}
```

```
?>
```

- `get_users.php`

```
<?php
```

```
    $page = isset($_POST['page']) ? intval($_POST['page']) : 1;
    $rows = isset($_POST['rows']) ? intval($_POST['rows']) : 10;
    $offset = ($page-1)*$rows;
    $result = array();
```

```
    include 'conn.php';
    $rs = mysql_query("select count(*) from users");
    $row = mysql_fetch_row($rs);
    $result["total"] = $row[0];
    $rs = mysql_query("select * from users limit $offset,$rows");
```

```
    $items = array();
    while($row = mysql_fetch_object($rs)){
        array_push($items, $row);
    }
    $result["rows"] = $items;
    echo json_encode($result);
```




```
?>
```

- Browse <http://localhost/Workspace/UserList/index.html>

Basic CRUD Application

 Click the buttons on datagrid toolbar to do crud actions.

My Users

 New User  Edit User  Remove User

	First Name	Last Name	Phone	Email
1	Chen	Haopeng	(139)123-9876	chenhaopeng@gmail.com
2	Zhang	San	(010)987-6543	zhangsan@hotmail.com
3	Li	Si	(021)345-6789	lisi@163.com

10 ▾

Page 1 of 1

Displaying 1 to 3 of 3 items

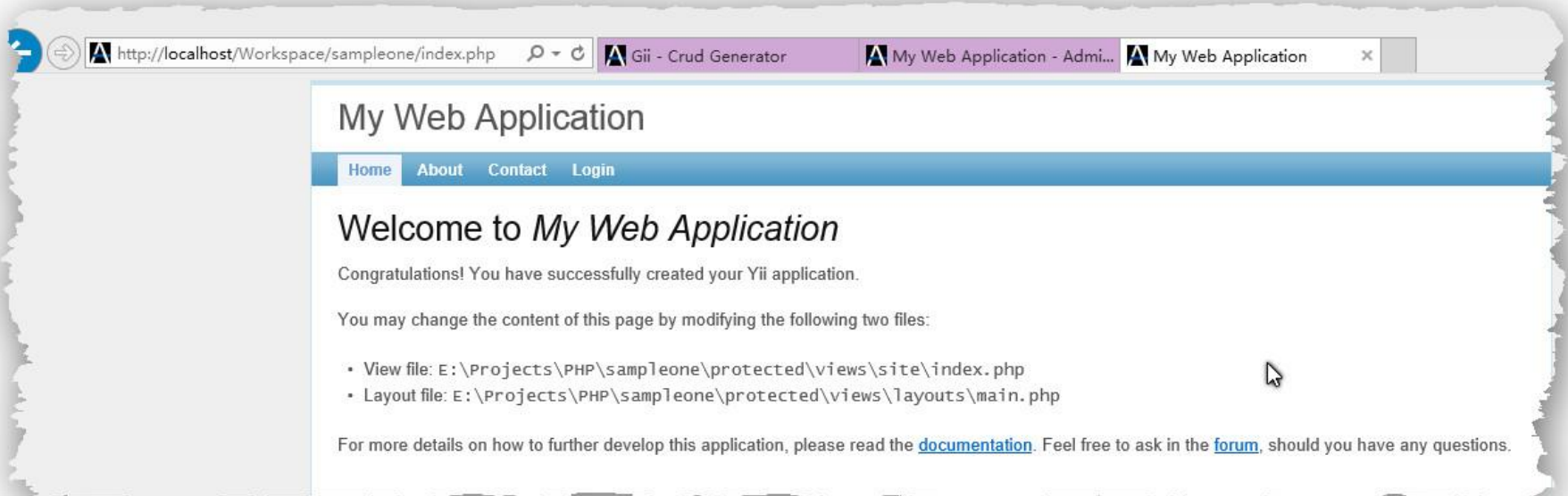
- Yii is a high-performance PHP framework best for developing Web 2.0 applications.



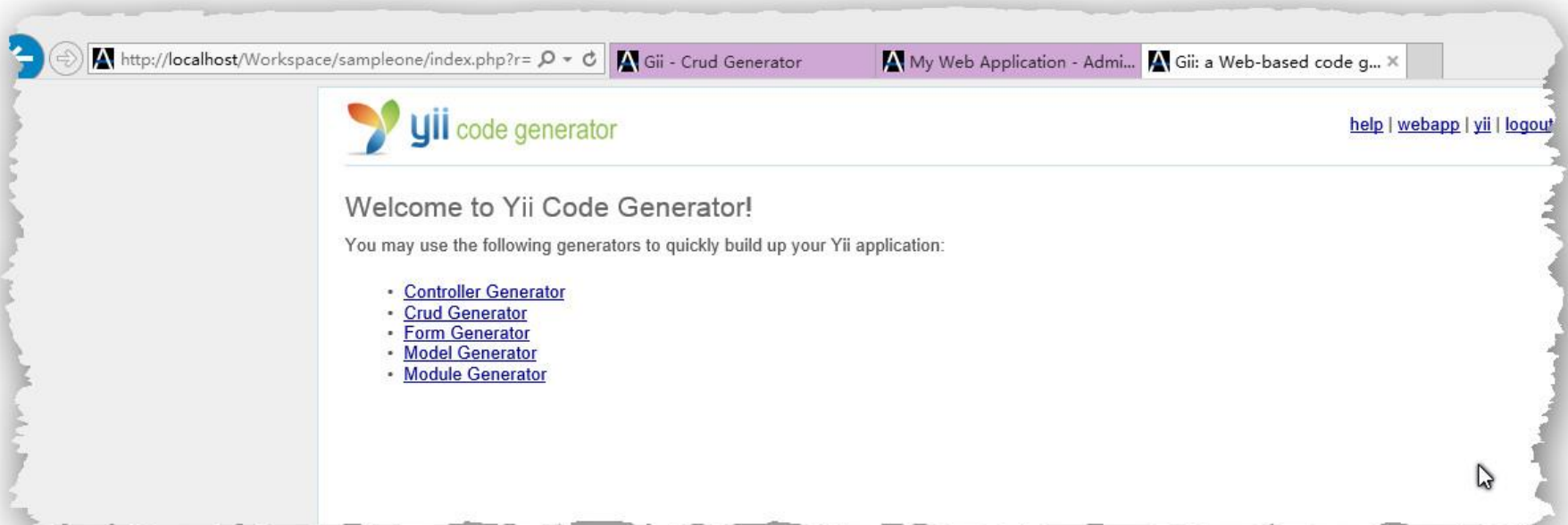
- Download Yii v1.1.14
 - And unzip the archive,
 - Copy the directory `/framework` and `/requirements` to
 - `Apache/htdocs`, or
 - `Eclipse/Workspace`
 - Run `yiic.bat` in `/framework` to generate your web application
 - `yiic webapp <app-path> [<vcs>]`
 - Where,
 - `app-path`: required, the directory where the new application will be created.
 - `vcs`: optional, version control system you're going to use in the new project.

- Uncomment
 - `extension=php-pdo-sqlite`in `php.ini`
- Modify
 - `webapp/protected/views/layouts/main.php(51)`
 - Add `date_default_timezone_set('Asia/Shanghai');`
 - `webapp/protected/config/main.php`
 - Uncomment line(24) `gii` part
 - Uncomment line(50) `db` part
 - `webapp/protected/config/console.php`
 - Uncomment line(19) `db` part
- Remember,
 - The directory of `session.save_path` should be **writable**.

- You first web application
 - <http://localhost/sampleone/index.php> (in the case of Apache), or
 - <http://localhost/Workspace/sampleone/index.php> (in the case of Eclipse)







- Use `gii` to generate code
 - <http://localhost/Workspace/sampleone/index.php?r=gii>
 - After logged in, you will see:



- Create a table
create table tbl_user (
id integer not null primary key auto_increment,
username varchar(128) not null,
password varchar(128) not null,
email varchar(128) not null);
- Generate code with the **Model Generator** and **CRUD Generator**

A screenshot of a web browser displaying a web application. The browser's address bar shows the URL 'http://localhost/Workspace/sampleone/index.php?r=...'. The page title is 'My Web Application'. The navigation menu includes 'Home', 'About', 'Contact', and 'Logout (admin)'. The breadcrumb trail is 'Home > Tbl Users > Manage'. The main heading is 'Manage Tbl Users'. Below the heading, there is a text instruction: 'You may optionally enter a comparison operator (<, <=, >, >=, <> or =) at the beginning of each of your search values to specify how the comparison should be done.' There is a link for 'Advanced Search'. On the right side, there is a 'Operations' menu with 'List TblUser' and 'Create TblUser' options. Below the text, it says 'Displaying 1-2 of 2 results.' and there is a table with columns 'ID', 'Username', 'Password', and 'Email'. The table contains two rows of data: one for 'root' with password '123' and email '1@3', and another for 'admin' with password 'admin' and email 'admin@admin'. Each row has three small icons (a magnifying glass, a plus sign, and a minus sign) to its right.

ID	Username	Password	Email	
1	root	123	1@3	  
2	admin	admin	admin@admin	  

- To develop a Book Store with PHP
 - jQuery UI
 - MySQL DB
 - Apache HTTP Server
 - To implement the CRUD of book, order and user.
 - You can design the structure of book, order and user tables as your will.

- PHP Documentation, <http://www.php.net/manual/en/>
- Using Apache HTTP Server on Microsoft Windows, <http://httpd.apache.org/docs/2.4/en/platform/windows.html>
- Windows7 下安装配置Apache2.2+PHP5.4+MySQL5.5环境, <http://www.54xue.com/w/23/n-31523.html>
- 搭建Eclipse PHP开发环境, <http://blog.csdn.net/zhoudaxia/article/details/5271250>
- PHP 教程, <http://www.w3school.com.cn/php/index.asp>
- Build CRUD Application with jQuery EasyUI, <http://www.jeasyui.com/tutorial/app/crud.php>
- Yiiframework, <http://www.yiiframework.com/>



Thank You!