

```
Símbolo del sistema
aramiko>=2.9.5->netmiko) (41.0.4)
Requirement already satisfied: pynacl>=1.5 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from paramiko>=2.9.5->netmiko) (1.5.0)
Requirement already satisfied: six in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from textfsm>=1.1.3->netmiko) (1.16.0)
Requirement already satisfied: future in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from textfsm>=1.1.3->netmiko) (0.18.3)
Requirement already satisfied: cffi>=1.12 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from cryptography>=3.3->paramiko>=2.9.5->netmiko) (1.16.0)
Requirement already satisfied: pycparser in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from cffi>=1.12->cryptography>=3.3->paramiko>=2.9.5->netmiko) (2.21)

[notice] A new release of pip is available: 23.2.1 -> 23.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\samuel>cd Descargas
El sistema no puede encontrar la ruta especificada.

C:\Users\samuel>cd Descargas
El sistema no puede encontrar la ruta especificada.

C:\Users\samuel>cd Documents

C:\Users\samuel\Documents>mkdir unidad3

C:\Users\samuel\Documents>cd unidad3

C:\Users\samuel\Documents\unidad3>code .

C:\Users\samuel\Documents\unidad3>
```

```
Símbolo del sistema
C:\Users\samuel>pip install netmiko
Requirement already satisfied: netmiko in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (4.2.0)
Requirement already satisfied: ntc-templates>=2.0.0 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (4.0.1)
Requirement already satisfied: paramiko>=2.9.5 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (3.3.1)
Requirement already satisfied: pyserial>=3.3 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (3.5)
Requirement already satisfied: pyyaml>=5.3 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (6.0.1)
Requirement already satisfied: scp>=0.13.6 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (0.14.5)
Requirement already satisfied: textfsm>=1.1.3 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from netmiko) (1.1.3)
Requirement already satisfied: bcrypt>=3.2 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from paramiko>=2.9.5->netmiko) (4.0.1)
Requirement already satisfied: cryptography>=3.3 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from paramiko>=2.9.5->netmiko) (41.0.4)
Requirement already satisfied: pynacl>=1.5 in c:\users\samuel\appdata\local\programs\python\python312\lib\site-packages (from paramiko>=2.9.5->netmiko) (1.5.0)
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```

The image consists of two screenshots of a Visual Studio Code editor window. The top screenshot shows a Python script named `lab2_2_samuel.py` with the following content:

```
1 '''Nombre: Samuel Reynaldo Olivera Lira
2   Lab: 2.2
3   fecha: 24 Nov 2023
4   ...
5
6
7
8 from netmiko import ConnectHandler
9
10 sshCli = ConnectHandler(
11     device_type='cisco_ios',
12     host='10.10.20.48',
13     port=22,
14     username='developer',
15     password = 'Cisc012345'
16 )
17
18 salida = sshCli.send_command('show ip int brief')
19 print (salida)
```

The bottom screenshot shows the same script, but with the output of the `show ip int brief` command displayed in the terminal window at the bottom. The output is as follows:

```
3/lab2_2_samuel.py
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet1  10.10.20.48     YES NVRAM  up          up
GigabitEthernet2  unassigned      YES NVRAM  administratively down down
GigabitEthernet3  unassigned      YES NVRAM  administratively down down
Loopback0        10.0.0.1        YES NVRAM  up          up
Loopback10       unassigned      YES unset  up          up
Loopback109      10.255.255.9    YES NVRAM  up          up
VirtualPortGroup0 192.168.1.1     YES NVRAM  up          up
```

The terminal window also shows the command prompt: `PS C:\Users\samuel\Documents\unidad3>`

Execute the Python script file and verify the results

Why does the output from “show ip int brief” not include the “loopback1” interface?

Puede ser que haya un error en los comandos de configuración de la interfaz loopback

How to execute and display the output from the “show ip int brief” command after the loopback interfaces was created?

```

lab22_samuel.py
C:\Users\samuel> Downloads\unidad_3> lab22_samuel.py > ...
25
26
27 config_commands = [
28     'interface loopback 1',
29     'ip address 2.2.2.2 255.255.0',
30     'description WHATEVER'
31 ]
32
33 output = sshCli.send_config_set(config_commands)
34 show_ip_output = sshCli.send_command('show ip int brief')
35 print(show_ip_output)
36 sshCli.disconnect()
37

```

Interface	IP-Address	OK?	Method	Status	Protocol
Loopback0	10.0.0.1	YES	NVRAM	up	up
Loopback10	unassigned	YES	unset	up	up
Loopback109	10.255.255.9	YES	NVRAM	up	up
VirtualPortGroup0	192.168.1.1	YES	NVRAM	up	up
Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet1	10.10.20.48	YES	NVRAM	up	up
GigabitEthernet2	unassigned	YES	NVRAM	administratively down	down
GigabitEthernet3	unassigned	YES	NVRAM	administratively down	down
Loopback0	10.0.0.1	YES	NVRAM	up	up
Loopback1	2.2.2.2	YES	manual	up	up
Loopback10	unassigned	YES	unset	up	up
Loopback109	10.255.255.9	YES	NVRAM	up	up
VirtualPortGroup0	192.168.1.1	YES	NVRAM	up	up

PS C:\Users\samuel>

Add code to create a new loopback interface (loopback2) with the same IP address as on the existing loopback interface, only with a different description.

Execute the Python script file and verify the results.

Was the new loopback2 interface successfully created?

no acepta la direccion

Was the new configuration change accepted, partially accepted or rejected?

```

lab22_samuel.py
C:\Users\samuel> Downloads\unidad_3> lab22_samuel.py > ...
40 sshCli = ConnectHandler(device_params)
41
42 config_commands = [
43     'interface loopback 2',
44     'ip address 2.2.2.2 255.255.0',
45     'description NEW',
46 ]
47
48 output = sshCli.send_config_set(config_commands)

```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet1	10.10.20.48	YES	NVRAM	up	up
GigabitEthernet2	unassigned	YES	NVRAM	administratively down	down
GigabitEthernet3	unassigned	YES	NVRAM	administratively down	down
Loopback0	10.0.0.1	YES	NVRAM	up	up
Loopback1	2.2.2.2	YES	manual	up	up
Loopback2	unassigned	YES	unset	up	up
Loopback10	unassigned	YES	unset	up	up
Loopback109	10.255.255.9	YES	NVRAM	up	up
VirtualPortGroup0	192.168.1.1	YES	NVRAM	up	up
Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet1	10.10.20.48	YES	NVRAM	up	up
GigabitEthernet2	unassigned	YES	NVRAM	administratively down	down
GigabitEthernet3	unassigned	YES	NVRAM	administratively down	down
Loopback0	10.0.0.1	YES	NVRAM	up	up
Loopback1	2.2.2.2	YES	manual	up	up
Loopback2	unassigned	YES	unset	up	up
Loopback10	unassigned	YES	unset	up	up
Loopback109	10.255.255.9	YES	NVRAM	up	up
VirtualPortGroup0	192.168.1.1	YES	NVRAM	up	up

PS C:\Users\samuel> & C:\Users\samuel\AppData\Local\Programs\Python\Python312\python.exe c:/Users/samuel/Downloads/unidad_3/lab2.2_samuel.py

