

Jose Manuel Gutiérrez Pérez

## Laboratorio 2.2

```
C:\WINDOWS\system x + v
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C:\Users\josem>pip install netmiko
Collecting netmiko
  Obtaining dependency information for netmiko from https://files.pythonhosted.org/packages/a8/4c/504be61a9f24e1971807d78a796db45e0580eb237c9563b1637ba819a4cf/netmiko-4.3.0-py3-none-any.whl.metadata
  Downloading netmiko-4.3.0-py3-none-any.whl.metadata (7.6 kB)
Collecting ntc-templates>=2.0.0 (from netmiko)
  Obtaining dependency information for ntc-templates>=2.0.0 from https://files.pythonhosted.org/packages/bd/53/588dad9532da51e7d52cc5e1ceb624a1a83b03e90661b6e2a6f215b8c5f/ntc_templates-4.0.1-py3-none-any.whl.metadata
  Downloading ntc_templates-4.0.1-py3-none-any.whl.metadata (3.9 kB)
Collecting paramiko>=2.9.5 (from netmiko)
  Obtaining dependency information for paramiko>=2.9.5 from https://files.pythonhosted.org/packages/bb/8f/3cef65d3fe76e59f320405027d594a0332e44852fef722f0ee4e81c2e7e3/paramiko-3.3.1-py3-none-any.whl.metadata
  Downloading paramiko-3.3.1-py3-none-any.whl.metadata (4.4 kB)
Collecting pyserial>=3.3 (from netmiko)
  Downloading pyserial-3.5-py2.py3-none-any.whl (90 kB)
  90.6/90.6 kB 737.1 kB/s eta 0:00:00
Collecting pyyaml>=5.3 (from netmiko)
  Obtaining dependency information for pyyaml>=5.3 from https://files.pythonhosted.org/packages/2b/9f/fbade56564ad486809c27b322d0f7e6a89c01f6b4fe208402e90d4443a99/PyYAML-6.0.1-cp312-cp312-win_amd64.whl.metadata
  Downloading PyYAML-6.0.1-cp312-cp312-win_amd64.whl.metadata (2.1 kB)
Collecting scp>=0.13.6 (from netmiko)
  Downloading scp-0.14.5-py2.py3-none-any.whl (8.7 kB)
Collecting textfsm>=1.1.3 (from netmiko)
  Downloading textfsm-1.1.3-py2.py3-none-any.whl (44 kB)
  44.7/44.7 kB 2.2 MB/s eta 0:00:00
Collecting bcrypt>=3.2 (from paramiko>=2.9.5->netmiko)
  Downloading bcrypt-4.0.1-cp36-abi3-win_amd64.whl (152 kB)
  152.0/152.0 kB 3.0 MB/s eta 0:00:00
Collecting cryptography>=3.3 (from paramiko>=2.9.5->netmiko)
  Obtaining dependency information for cryptography>=3.3 from https://files.pythonhosted.org/packages/e9/e2/56b5a694eed8efc1bd6869208e83f0b7af0e6e11a69309b11b3b8d700b71/cryptography-41.0.6-cp37-abi3-win_amd64.whl.metadata
  Downloading cryptography-41.0.6-cp37-abi3-win_amd64.whl.metadata (5.3 kB)
Collecting pynacl>=1.5 (from paramiko>=2.9.5->netmiko)
  Downloading PyNaCl-1.5.0-cp36-abi3-win_amd64.whl (212 kB)
  212.1/212.1 kB 12.6 MB/s eta 0:00:00
Collecting six (from textfsm>=1.1.3->netmiko)
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Collecting future (from textfsm>=1.1.3->netmiko)
```

```
File Edit Selection ... unidad 3
lab02_manual.py
1 ...
2 Jose Manuel Gutiérrez Pérez
3 Fecha: 24 de noviembre del 2023
4 Descripción: lab 2.2
5 ...
6 ...
7 ...
8 ...
9 from netmiko import ConnectHandler
10
11 sshCli = ConnectHandler(
12     device_type='cisco_ios',
13     host='10.10.20.40',
14     port=22,
15     username='developer',
16     password='cisco12345'
17 )
18
19 salida = sshCli.send_command('show ip int brief')
20 print(salida)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\josem\Documents\programacion-redes\unidad 3> & C:\Users\josem\AppData\Local\Microsoft\WindowsApps\python.11.exe "C:\Users\josem\Documents\programacion-redes\unidad 3\lab02_manual.py"
Interface IP Address OK? Method Status
GigabitEthernet1 10.10.20.40 YES N/A/W up
GigabitEthernet2 unassigned YES N/A/W administratively down down
GigabitEthernet3 unassigned YES N/A/W administratively down down
Loopback0 10.0.0.1 YES N/A/W up
Loopback10 unassigned YES unset up
Loopback100 10.255.255.9 YES N/A/W up
VirtualPortGroup0 192.168.1.1 YES N/A/W up
PS C:\Users\josem\Documents\programacion-redes\unidad 3>
```

```

1
2 Jose Manuel Gutiérrez Pérez
3 fecha: 24 de noviembre del 2023
4 description: lab 2.2
5
6
7 from netmiko import ConnectHandler
8
9 sshCli = ConnectHandler(
10     device_type = 'cisco_ios',
11     host = '10.10.20.40',
12     port = 22,
13     username = 'developer',
14     password = 'Cisco12345'
15 )
16
17 output = sshCli.send_command('show ip int brief')
18 print('show ip int brief: \n', output)
19
20
21
22 config_commands = [
23     'int loopback 1',
24     'ip address 2.2.2.2 255.255.255.0',
25     'description whatever'
26 ]
27
28 output = sshCli.send_config_set(config_commands)
29 print('show ip int brief: \n', output)
30
31

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Interface	IP Address	OK?	Method	Status	Protocol
GigabitEthernet3	unassigned	YES	NMNM	administratively down	up
Loopback0	20.20.20.2	YES	NMNM	up	up
Loopback1	2.2.2.2	YES	manual	up	up
Loopback2	unassigned	YES	unset	up	up
Loopback3	unassigned	YES	unset	up	up
Loopback100	10.255.255.0	YES	NMNM	up	up
VirtualPort0/8	192.168.1.1	YES	NMNM	up	up

```

1
2 Jose Manuel Gutiérrez Pérez
3 fecha: 24 de noviembre del 2023
4 description: lab 2.2
5
6
7 from netmiko import ConnectHandler
8
9 sshCli = ConnectHandler(
10     device_type = 'cisco_ios',
11     host = '10.10.20.40',
12     port = 22,
13     username = 'developer',
14     password = 'Cisco12345'
15 )
16
17 output = sshCli.send_command('show ip int brief')
18 print('show ip int brief: \n', output)
19
20
21
22 config_commands = [
23     'int loopback 1',
24     'ip address 2.2.2.2 255.255.255.0',
25     'description whatever'
26 ]
27
28 output = sshCli.send_config_set(config_commands)
29 print('show ip int brief: \n', output)
30
31

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```

PS C:\Users\josem\Documents\programacion-redes\unidad 3> & C:\Users\josem\AppData\Local\Programs\Python\Python112\python.exe "C:\Users\josem\Documents\programacion-redes\unidad 3\lab2_manual.py"

show ip int brief:
Interface          IP Address      OK? Method Status  Protocol
GigabitEthernet1   20.20.20.20     YES NMNM    up       up
GigabitEthernet2   unassigned      YES NMNM    administratively down  up
GigabitEthernet3   unassigned      YES NMNM    administratively down  up
Loopback0          20.20.20.1      YES NMNM    up       up
Loopback1          2.2.2.2         YES manual  up       up
Loopback2          unassigned      YES unset   up       up
Loopback3          unassigned      YES unset   up       up
Loopback100        10.255.255.0    YES NMNM    up       up
VirtualPort0/8     192.168.1.1     YES NMNM    up       up

show ip int brief:
Interface          IP Address      OK? Method Status  Protocol
GigabitEthernet1   20.20.20.20     YES NMNM    up       up
GigabitEthernet2   unassigned      YES NMNM    administratively down  up
GigabitEthernet3   unassigned      YES NMNM    administratively down  up
Loopback0          20.20.20.1      YES NMNM    up       up
Loopback1          2.2.2.2         YES manual  up       up
Loopback2          unassigned      YES unset   up       up
Loopback3          unassigned      YES unset   up       up
Loopback100        10.255.255.0    YES NMNM    up       up
VirtualPort0/8     192.168.1.1     YES NMNM    up       up

PS C:\Users\josem\Documents\programacion-redes\unidad 3>

```

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

Porque no estaba agregada o creada antes

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

# Añadir código para mostrar la salida de "show ip int brief"

output\_show\_ip = sshCli.send\_command('show ip int brief')

print(output\_show\_ip)

```

1
2 Jose Manuel Gutiérrez Pérez
3 fecha: 24 de noviembre del 2023
4 description: lab 2.2
5 ...
6
7 from netmiko import ConnectHandler
8
9 snc11 = ConnectHandler(
10     device_type = 'cisco_ios',
11     host = '10.10.10.40',
12     port = 22,
13     username = 'developer',
14     password = 'Cisco12345'
15 )
16
17 output = snc11.send_command('show ip int brief')
18 print('show ip int brief: \n', output)
19
20
21
22 config_commands = [
23     'int loopback 1',
24     'ip address 2.2.2.2 255.255.255.0',
25     'description WHATEVER'
26 ]
27
28 output = snc11.send_command_set(config_commands)
29 print('show ip int brief: \n', output)
30
31
32 config_commands = [
33     'int loopback 2',
34     'ip address 2.2.2.2 255.255.255.0',
35     'description MUY'
36 ]
37
38 output = snc11.send_command_set(config_commands)
39 print('show ip int brief: \n', output)

```

```

PS C:\Users\jmanu\Documents\programacion-redes\unidad 3 & C:\Users\jmanu\AppData\Local\Programs\Python\Python112\python.exe "C:\Users\jmanu\Documents\programacion-redes\unidad 3\lab02_manual.py"
show ip int brief:
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet1 10.10.10.40      YES NMAP    up           ip
GigabitEthernet2 unassigned      YES NMAP    administratively down
GigabitEthernet3 unassigned      YES NMAP    administratively down
Loopback0       10.0.0.1         YES NMAP    up           ip
Loopback1       2.2.2.2          YES NMAP    up           ip
Loopback2       unassigned       YES unset   up           ip
Loopback3       unassigned       YES unset   up           ip
Loopback4       unassigned       YES unset   up           ip
Loopback5       10.255.255.9    YES NMAP    up           ip
Loopback6       192.168.1.1     YES NMAP    up           ip
VirtualPortGroup8 unassigned       YES NMAP    up           ip
show ip int brief:
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet1 10.10.10.40      YES NMAP    up           ip
GigabitEthernet2 unassigned      YES NMAP    administratively down
GigabitEthernet3 unassigned      YES NMAP    administratively down
Loopback0       10.0.0.1         YES NMAP    up           ip
Loopback1       2.2.2.2          YES NMAP    up           ip
Loopback2       unassigned       YES unset   up           ip
Loopback3       unassigned       YES unset   up           ip
Loopback4       unassigned       YES unset   up           ip
Loopback5       10.255.255.9    YES NMAP    up           ip
Loopback6       192.168.1.1     YES NMAP    up           ip
VirtualPortGroup8 unassigned       YES NMAP    up           ip
show ip int brief:
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet1 10.10.10.40      YES NMAP    up           ip
GigabitEthernet2 unassigned      YES NMAP    administratively down
GigabitEthernet3 unassigned      YES NMAP    administratively down
Loopback0       10.0.0.1         YES NMAP    up           ip
Loopback1       2.2.2.2          YES NMAP    up           ip
Loopback2       unassigned       YES unset   up           ip
Loopback3       unassigned       YES unset   up           ip
Loopback4       unassigned       YES unset   up           ip
Loopback5       10.255.255.9    YES NMAP    up           ip
Loopback6       192.168.1.1     YES NMAP    up           ip
VirtualPortGroup8 unassigned       YES NMAP    up           ip
PS C:\Users\jmanu\Documents\programacion-redes\unidad 3>

```

Was the new loopback2 interface successfully created?

No se creo correctamente ya que no acepto correctamente la dirección ya que estaba ocupada por la loopback 1

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

Rechazo la ip de le designamos ya que cuenta con la misma la loopback