

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 x
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
Python 3.11.6 64-bit (Microsoft Store)
PS C:\Users\josem\Documents\programacion-redes\unidad 3> & C:\Users\josem\AppData\Local\Microsoft\WindowsApps\python3.11.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 20.20.20.2 YES NMNM up up
GigabitEthernet2 unassigned YES NMNM administratively down down
GigabitEthernet3 unassigned YES NMNM administratively down down
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 20.20.20.2 YES NMNM up up
GigabitEthernet2 unassigned YES NMNM administratively down down
GigabitEthernet3 unassigned YES NMNM administratively down down
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 hdy'
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      VRF          Method Status      Protocol
GigabitEthernet1       10.10.10.40     YES N/A/N/A  up           up
GigabitEthernet2       unassigned      YES N/A/N/A  administrativ down
GigabitEthernet3       unassigned      YES N/A/N/A  administrativ down
Loopback0              10.8.8.1        YES N/A/N/A  up           up
Loopback1              2.2.2.2         YES N/A/N/A  up           up
Loopback2              unassigned      YES unset    up           up
Loopback3              unassigned      YES unset    up           up
Loopback309            10.255.255.9    YES N/A/N/A  up           up
VirtualPortGroup0      192.168.1.1     YES N/A/N/A  up           up
show ip int brief:
Interface              IP-Address      VRF          Method Status      Protocol
GigabitEthernet1       10.10.10.40     YES N/A/N/A  up           up
GigabitEthernet2       unassigned      YES N/A/N/A  administrativ down
GigabitEthernet3       unassigned      YES N/A/N/A  administrativ down
Loopback0              10.8.8.1        YES N/A/N/A  up           up
Loopback1              2.2.2.2         YES N/A/N/A  up           up
Loopback2              unassigned      YES unset    up           up
Loopback3              unassigned      YES unset    up           up
Loopback309            10.255.255.9    YES N/A/N/A  up           up
VirtualPortGroup0      192.168.1.1     YES N/A/N/A  up           up
show ip int brief:
Interface              IP-Address      VRF          Method Status      Protocol
GigabitEthernet1       10.10.10.40     YES N/A/N/A  up           up
GigabitEthernet2       unassigned      YES N/A/N/A  administrativ down
GigabitEthernet3       unassigned      YES N/A/N/A  administrativ down
Loopback0              10.8.8.1        YES N/A/N/A  up           up
Loopback1              2.2.2.2         YES N/A/N/A  up           up
Loopback2              unassigned      YES unset    up           up
Loopback3              unassigned      YES unset    up           up
Loopback309            10.255.255.9    YES N/A/N/A  up           up
VirtualPortGroup0      192.168.1.1     YES N/A/N/A  up           up

```

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

```
2_manuel.py / ...
'''
Jose Manuel Gutiérrez Pérez
fecha: 24 de noviembre del 2023
descripcion: lab 2.2
'''

from netmiko import ConnectHandler

sshCli = ConnectHandler(
    device_type = 'cisco_ios',
    host = '10.10.20.48',
    port = 22,
    username = 'developer',
    password = 'C1sco12345'
)

output = sshCli.send_command('show ip int brief')
print("show ip int brief: :\n",output)


config_comands = [
    'int loopback 1',
    'ip address 2.2.2.2 255.255.255.0',
    'description WHATEVER'
]
output =sshCli.send_config_set(config_comands)
output = sshCli.send_command('show ip int brief')
print("show ip int brief: :\n",output)

config_comands =[
    'int loopback 2',
    'ip address 2.2.2.2 255.255.255.0',
    'description NEW'
]
output =sshCli.send_config_set(config_comands)
output = sshCli.send_command('show ip int brief')
print("show ip int brief: :\n",output)
```