



Universidad Tecnológica
del Norte de Guanajuato
Organismo Público Descentralizado del Gobierno del Estado

Facultad de: *Infraestructura de Redes Digitales*

Nombre del Alumno(a): *Ángel Armando Ramírez Vázquez*

Matrícula: *1221100627*

Materia:

Programación de Redes

Nombre de la Actividad:

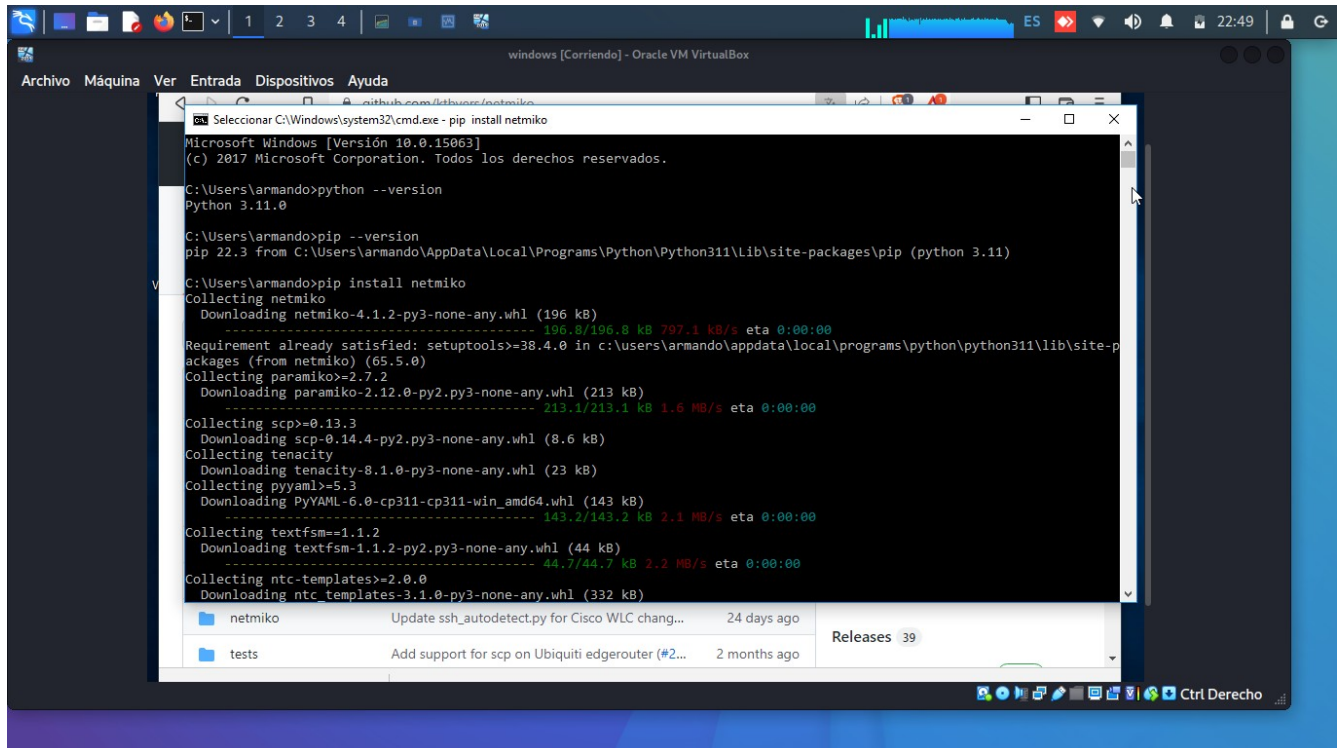
2.2 Lab - CLI Automation with Python using netmiko

Profesor:

Barron Rodríguez Gabriel

Lugar y Fecha de Presentación: *Dolores Hidalgo C.I.N.*; hoy *6* de *Diciembre* del
2022

Parte 1- Instala el modulo de python netmiko

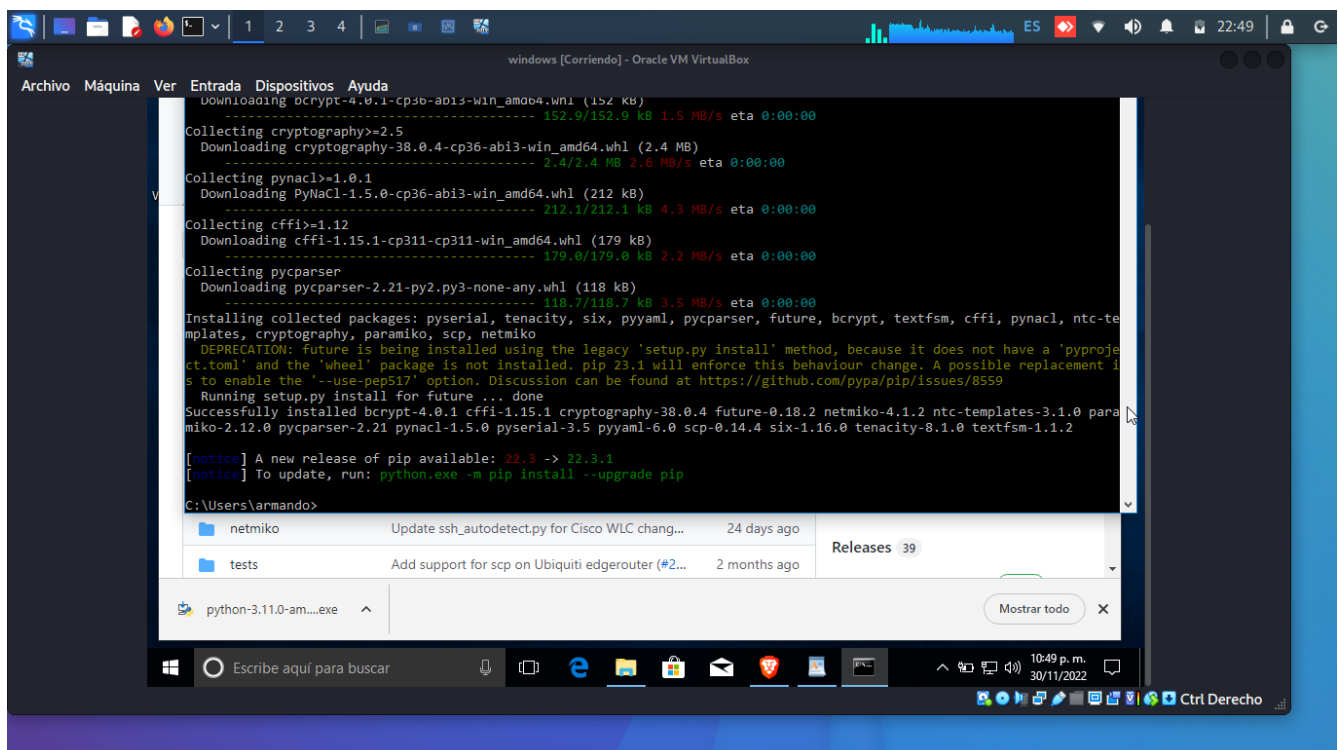


```
Selecciónar C:\Windows\system32\cmd.exe - pip install netmiko
Microsoft Windows [Versión 10.0.15063]
(c) 2017 Microsoft Corporation. Todos los derechos reservados.

C:\Users\armando>python --version
Python 3.11.0

C:\Users\armando>pip --version
pip 22.3 from C:\Users\armando\AppData\Local\Programs\Python\Python311\Lib\site-packages\pip (python 3.11)

C:\Users\armando>pip install netmiko
Collecting netmiko
  Downloading netmiko-4.1.2-py3-none-any.whl (196 kB)
----- 196.0/196.0 kB 707.1 kB/s eta 0:00:00
Requirement already satisfied: setuptools>=38.4.0 in c:\users\armando\appdata\local\programs\python\python311\lib\site-p
ackages (from netmiko) (65.5.0)
Collecting paramiko>=2.7.2
  Downloading paramiko-2.12.0-py2.py3-none-any.whl (213 kB)
----- 213.1/213.1 kB 1.6 MB/s eta 0:00:00
Collecting scp>=0.13.3
  Downloading scp-0.14.4-py2.py3-none-any.whl (8.6 kB)
Collecting tenacity
  Downloading tenacity-8.1.0-py3-none-any.whl (23 kB)
Collecting pyyaml>=5.3
  Downloading PyYAML-6.0-cp311-cp311-win_amd64.whl (143 kB)
----- 143.2/143.2 kB 2.1 MB/s eta 0:00:00
Collecting textfsm>=1.1.2
  Downloading textfsm-1.1.2-py2.py3-none-any.whl (44 kB)
----- 44.7/44.7 kB 2.2 MB/s eta 0:00:00
Collecting ntc-templates>=2.0.0
  Downloading ntc_templates-3.1.0-py3-none-any.whl (332 kB)
----- 332.0/332.0 kB 2.2 MB/s eta 0:00:00
Installing collected packages: netmiko, paramiko, scp, tenacity, pyyaml, textfsm, ntc-templates
Successfully installed netmiko-4.1.2 paramiko-2.12.0 scp-0.14.4 tenacity-8.1.0 pyyaml-6.0 textfsm-1.1.2 ntc-templates-3.1.0
```

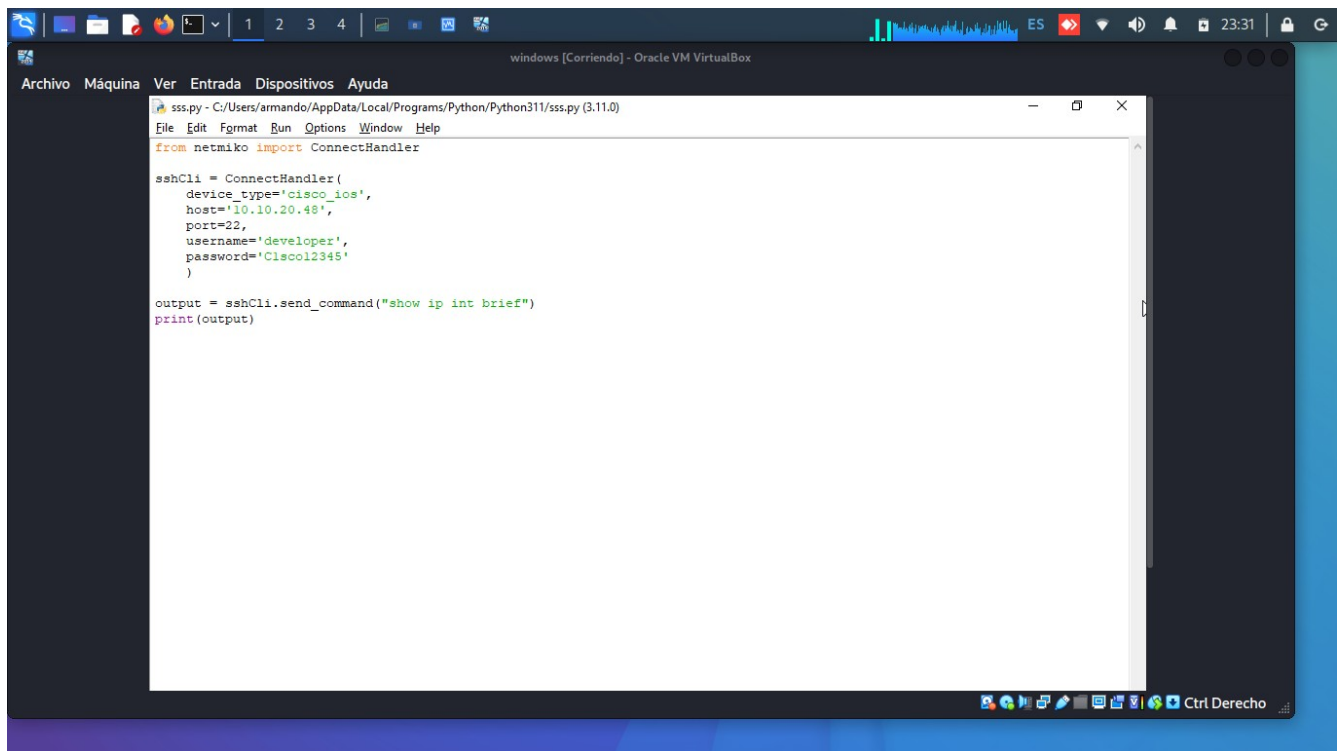
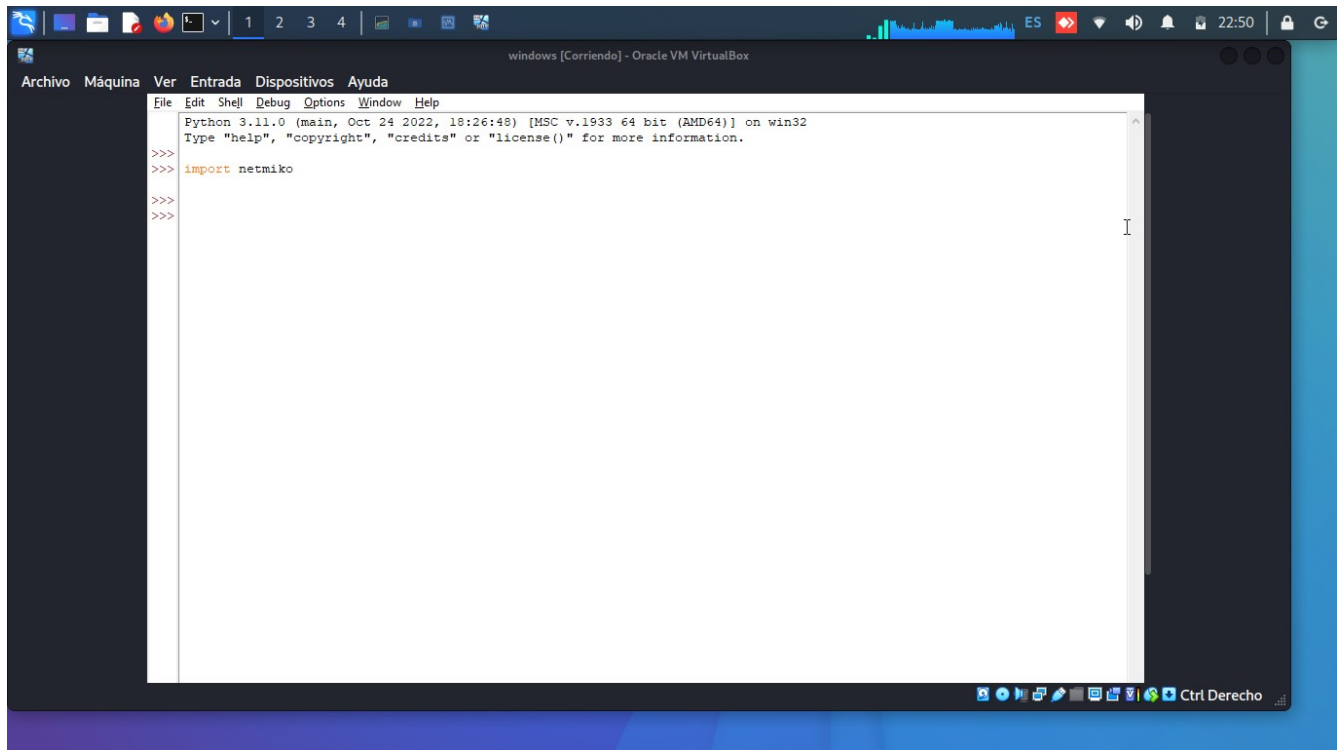


```
windows [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Downloading bcrypt-4.0.1-cp36-abi3-win_amd64.whl (152 kB)
----- 152.9/152.9 kB 1.5 MB/s eta 0:00:00
Collecting cryptography>=2.5
  Downloading cryptography-38.0.4-cp36-abi3-win_amd64.whl (2.4 MB)
----- 2.4/2.4 MB 2.6 MB/s eta 0:00:00
Collecting pynacl>=1.0.1
  Downloading PyNaCl-1.5.0-cp36-abi3-win_amd64.whl (212 kB)
----- 212.1/212.1 kB 4.3 MB/s eta 0:00:00
Collecting cffi>=1.12
  Downloading cffi-1.15.1-cp311-cp311-win_amd64.whl (179 kB)
----- 179.0/179.0 kB 2.2 MB/s eta 0:00:00
Collecting pycparser
  Downloading pycparser-2.21-py2.py3-none-any.whl (118 kB)
----- 118.7/118.7 kB 3.5 MB/s eta 0:00:00
Installing collected packages: pynacl, cryptography, paramiko, scp, netmiko, pycparser, future, bcrypt, textfsm, cffi, ntc-templates
DEPRECATION: future is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.com/pypa/pip/issues/8559
Running setup.py install for future ... done
Successfully installed bcrypt-4.0.1 cffi-1.15.1 cryptography-38.0.4 future-0.18.2 netmiko-4.1.2 ntc-templates-3.1.0 paramiko-2.12.0 pycparser-2.21 pynacl-1.5.0 pyserial-3.5 pyyaml-6.0 scp-0.14.4 six-1.16.0 tenacity-8.1.0 textfsm-1.1.2

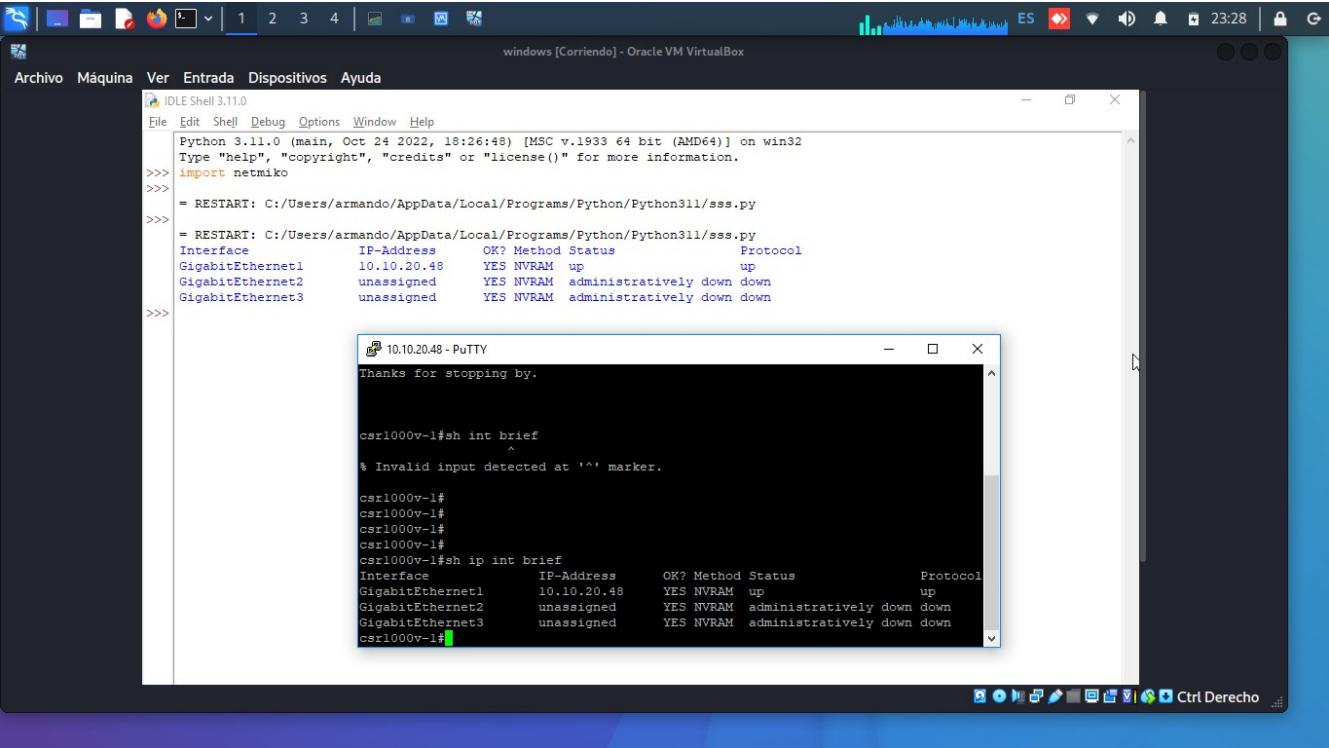
[notice] A new release of pip available: 22.3 -> 22.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\armando>
```

Paso 2. Conectate al IOS XE a traves de SSH usando netmiko



Parte 3. Verifica tus resultados



Paso 4. Usa netmiko para configurar el dispositivo.

