

Instalacion del modulo python ncclient

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Versión 10.0.22000.1219]
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C:\Users\foser>pip install ncclient
Requirement already satisfied: ncclient in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (0.6.13)
Requirement already satisfied: setuptools<0.6 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from ncclient) (63.2.0)
Requirement already satisfied: paramiko>=1.15.0 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from ncclient) (2.11.0)
Requirement already satisfied: lxml>=3.3.0 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from ncclient) (4.9.1)
Requirement already satisfied: six in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from ncclient) (1.16.0)
Requirement already satisfied: bcrypt>=3.1.2 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from paramiko>=1.15.0->ncclient) (4.0.1)
Requirement already satisfied: pynacl>=1.0.1 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from paramiko>=1.15.0->ncclient) (1.5.0)
Requirement already satisfied: cryptography>=2.5 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from paramiko>=1.15.0->ncclient) (38.0.1)
Requirement already satisfied: cffi>=1.12 in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from cryptography>=2.5->paramiko>=1.15.0->ncclient) (1.15.1)
Requirement already satisfied: pycparser in c:\users\foser\appdata\local\programs\python\python310\lib\site-packages (from cffi>=1.12->cryptography>=2.5->paramiko>=1.15.0->ncclient) (2.21)

C:\Users\foser>
```

capacidades del IOS XE: modelos YANG admitidos

```
lab2.7.py - Visual Studio Code
ssh.py lab2.5par2.py lab2.7.py lab2.5.py Confianza en el área de trabajo

C:\Users\foser>Downloads>lab2.7.py -
1 import ncclient
2 from ncclient import manager
3
4 m = manager.connect(
5     host="10.10.20.48",
6     port=80,
7     username="developer",
8     password="cisc012345",
9     hostkey_verify=False
10 )
11
12 print("#Supported Capabilities (YANG models):")
13 for capability in m.server_capabilities:
14     print(capability)
15

PROBLEMAS SALIDA CONSOLA DE DEPURACIÓN TERMINAL JUPYTER

urn:ietf:params:xml:ns:yang:smiv2:SNMP-PROXY-MIB&module=SNMP-PROXY-MIB&revision=2002-10-14
urn:ietf:params:xml:ns:yang:smiv2:SNMPv2-MIB&module=SNMPv2-MIB&revision=2002-10-16
urn:ietf:params:xml:ns:yang:smiv2:SNMPv2-TC&module=SNMPv2-TC
urn:ietf:params:xml:ns:yang:smiv2:SONET-MIB&module=SONET-MIB&revision=2003-08-11
urn:ietf:params:xml:ns:yang:smiv2:TCP-MIB&module=TCP-MIB&revision=2005-02-18
urn:ietf:params:xml:ns:yang:smiv2:TOKEN-RING-IPON-MIB&module=TOKEN-RING-IPON-MIB
urn:ietf:params:xml:ns:yang:smiv2:TOKENRING-MIB&module=TOKENRING-MIB&revision=1994-10-23
urn:ietf:params:xml:ns:yang:smiv2:TUNNEL-MIB&module=TUNNEL-MIB&revision=2005-05-16
urn:ietf:params:xml:ns:yang:smiv2:UDP-MIB&module=UDP-MIB&revision=2005-05-20
urn:ietf:params:xml:ns:yang:smiv2:VPN-TC-STD-MIB&module=VPN-TC-STD-MIB&revision=2005-11-15
urn:ietf:params:xml:ns:yang:ietf-netconf&module=ietf-netconf&revision=2011-06-01
urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults&module=ietf-netconf-with-defaults&revision=2011-06-01
urn:ietf:params:netconf:capability:notification:1.1

PS C:\Users\foser>
```

Salida

```
urn:ietf:params:xml:ns:yang:smiv2:SNMP-PROXY-MIB,module=SNMP-PROXY-MIBrevision=2002-10-14
urn:ietf:params:xml:ns:yang:smiv2:SNMPv2-MIB,module=SNMPv2-MIBrevision=2002-10-16
urn:ietf:params:xml:ns:yang:smiv2:SNMPv2-TC,module=SNMPv2-TCrevision=2002-10-16
urn:ietf:params:xml:ns:yang:smiv2:SONET-MIB,module=SONET-MIBrevision=2003-08-11
urn:ietf:params:xml:ns:yang:smiv2:TCP-MIB,module=TCP-MIBrevision=2005-02-18
urn:ietf:params:xml:ns:yang:smiv2:TOKEN-RING-RMON-MIB,module=TOKEN-RING-RMON-MIBrevision=1994-10-23
urn:ietf:params:xml:ns:yang:smiv2:TOKENRING-MIB,module=TOKENRING-MIBrevision=1994-10-23
urn:ietf:params:xml:ns:yang:smiv2:TUNNEL-MIB,module=TUNNEL-MIBrevision=2005-05-16
urn:ietf:params:xml:ns:yang:smiv2:UDP-MIB,module=UDP-MIBrevision=2005-05-20
urn:ietf:params:xml:ns:yang:smiv2:VPN-CT-STD-MIB,module=VPN-CT-STD-MIBrevision=2005-11-15
urn:ietf:params:xml:ns:netconf:base:1.0,module=ietf-netconfbase:1.0revision=2011-06-01
urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults,module=ietf-netconf-with-defaultsrevision=2011-06-01

urn:ietf:params:netconf:capability:notification:1.1
```

PS C:\Users\foser>

Conclusión

¿Por qué usar NcClient?

Facilita el desarrollo de scripts y aplicaciones del cliente mediante el protocolo NETCONF.

¿Por qué utilizo YANG?

Por la misma validación y conversión en los módulos

¿Qué tipo de información obtengo?

Para obtener más información acerca de `ncclient`, incluida la documentación de las API externas