

The screenshot shows a Visual Studio Code editor window with a dark theme. The Explorer sidebar on the left lists files under 'LABORATORIOS', including 'lab2.9.py'. The main editor area displays the code for 'lab2.9.py'. The code is a Python script that connects to a Netconf server, sends an XML filter, and processes the response.

```
1 '''
2 samuel reynaldo olvera
3 fecha: 4 de noviembre del 2023
4 descripcion: lab 2.9
5
6 ...
7 from ncclient import manager
8 import xml.dom.minidom
9 import xmltodict
10
11 m = manager.connect(
12     host="10.10.20.48",
13     port=830,
14     username="developer",
15     password="C1scol2345",
16     hostkey_verify=False
17 )
18
19
20 netconf_filter = """
21 <filter>
22   <interfaces-state xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"/>
23 </filter>
24 """
25 netconf_reply = m.get(filter = netconf_filter)
26 print(xml.dom.minidom.parseString(netconf_reply.xml).toprettyxml())
27
28 netconf_reply_dict = xmltodict.parse(netconf_reply.xml)
29 for interface in netconf_reply_dict["rpc-reply"]["data"]["interfaces-state"]["interface"]:
```

This screenshot shows the continuation of the Python script in the same VS Code editor. The code continues from the previous block, processing the XML response and printing specific interface details.

```
30     print("Name: {} MAC: {} Input: {} Output {}".format(
31         interface["name"],
32         interface["phys-address"],
33         interface["statistics"]["in-octets"],
34         interface["statistics"]["out-octets"]
35     ))
36 )
```

The screenshot shows a VS Code editor window with a file explorer on the left and a code editor on the right. The file explorer shows a project named 'LABORATORIOS' with several files, including 'lab2.9.py'. The code editor shows the following Python code:

```
21 <filter>
22 <interfaces-state xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"/>
23 </filter>
24
25 netconf_reply = m.get(filter = netconf_filter)
26 print(xml.dom.minidom.parseString(netconf_reply.xml).toprettyxml())
27
28 netconf_reply_dict = xmldict.parse(netconf_reply.xml)
29 for interface in netconf_reply_dict["rpc-reply"]["data"]["interfaces-state"]["interface"]:
30     print("Name: {} MAC: {} Input: {} Output {}".format(
31         interface["name"],
32         interface["phys-address"],
33         interface["statistics"]["in-octets"],
```

The terminal window shows a traceback error:

```
Traceback (most recent call last):
  File "c:\Users\samuel\Downloads\unidad_3\laboratorios\lab2.9.py", line 25, in <module>
    netconf_reply = m.get(filter = netconf_filter)
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\manager.py", line 257, in execute
    return cls(self._session,
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\operations\retrieve.py", line 91, in request
    return self._request(node)
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\operations\rpc.py", line 375, in _request
    raise self._reply.error
ncclient.operations.rpc.RPCError: {'type': 'protocol', 'tag': 'unknown-element', 'app_tag': None, 'severity': 'error', 'info': '<?xml versi
ons="1.0" encoding="UTF-8"><error-info xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0"><
ons="1.0" encoding="UTF-8"><error-info xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0"><
bad-element>filter</bad-element>\n</error-info>\n', 'path': '\n /rpc/getbad-element>filter</bad-element>\n</error-info>\n', 'path': '\n
bad-element>filter</bad-element>\n</error-info>\n', 'path': 'bad-element>filter</bad-element>\n</error-info>\n', 'path': '\n /rpc/get\n '
Ln 25, Col 17 Spaces: 4 UTF-8 CRLF Python 3.12.0 64-bit Go Live
```

The screenshot shows a VS Code editor window with a file explorer on the left and a code editor on the right. The file explorer shows a project named 'LABORATORIOS' with several files, including 'lab2.9.py'. The code editor shows the following Python code:

```
21 <filter>
22 <interfaces-state xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"/>
23 </filter>
24
25 netconf_reply = m.get(filter = netconf_filter)
26 print(xml.dom.minidom.parseString(netconf_reply.xml).toprettyxml())
27
28 netconf_reply_dict = xmldict.parse(netconf_reply.xml)
29 for interface in netconf_reply_dict["rpc-reply"]["data"]["interfaces-state"]["interface"]:
30     print("Name: {} MAC: {} Input: {} Output {}".format(
31         interface["name"],
32         interface["phys-address"],
33         interface["statistics"]["in-octets"],
```

The terminal window shows a traceback error:

```
Traceback (most recent call last):
  File "c:\Users\samuel\Downloads\unidad_3\laboratorios\lab2.9.py", line 25, in <module>
    netconf_reply = m.get(filter = netconf_filter)
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\manager.py", line 257, in execute
    return cls(self._session,
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\operations\retrieve.py", line 91, in request
    return self._request(node)
    ~~~~~^
  File "C:\Users\samuel\AppData\Local\Programs\Python\Python312\Lib\site-packages\ncclient\operations\rpc.py", line 375, in _request
    raise self._reply.error
ncclient.operations.rpc.RPCError: {'type': 'protocol', 'tag': 'unknown-element', 'app_tag': None, 'severity': 'error', 'info': '<?xml versi
ons="1.0" encoding="UTF-8"><error-info xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0"><
ons="1.0" encoding="UTF-8"><error-info xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0"><
bad-element>filter</bad-element>\n</error-info>\n', 'path': '\n /rpc/getbad-element>filter</bad-element>\n</error-info>\n', 'path': '\n
bad-element>filter</bad-element>\n</error-info>\n', 'path': 'bad-element>filter</bad-element>\n</error-info>\n', 'path': '\n /rpc/get\n '
Ln 25, Col 17 Spaces: 4 UTF-8 CRLF Python 3.12.0 64-bit Go Live
```

NOTA: ERROR YA QUE LOS FILTROS NO ESTAN DISPONIBLES