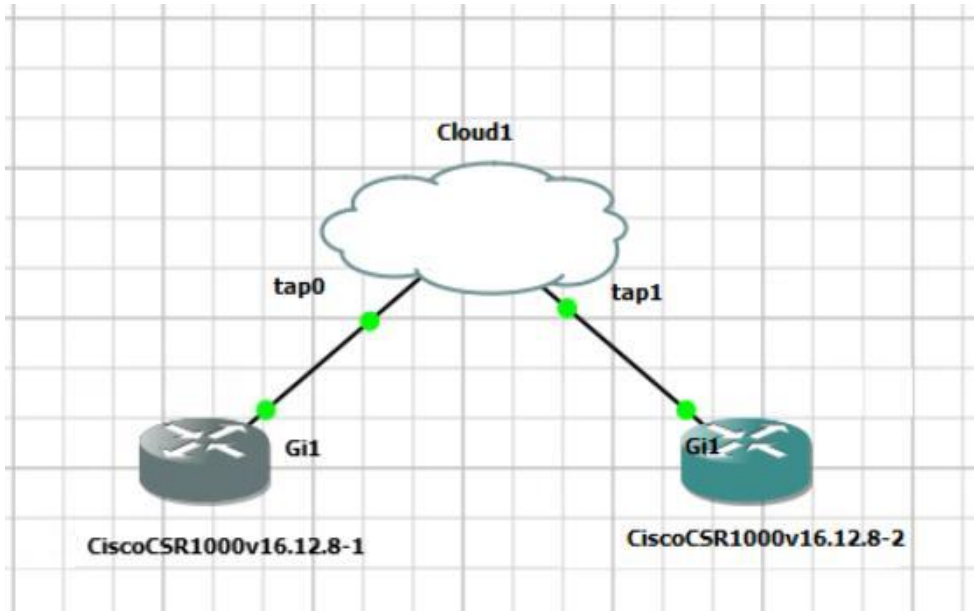


Enable the Netconf on the Router

Topology



DHCP will allocate the IP address to the Router

```
cloud2.rpsconsulting.in/console/#/client/MjUSNDEAYwBteXNxbA==

QEMU (CiscoCSR1000v16.12.8-1) - TightVNC Viewer

*Jul  9 12:15:26.583: %CRYPTO_ENGINE-5-KEY_ADDITION: A key named TP-self-signed-
3484120250.server has been generated or imported by crypto-engine
*Jul  9 12:15:35.217: %SMART_LIC-6-EXPORT_CONTROLLED: Usage of export controlled
features is not allowed
*Jul  9 12:15:35.221: %CALL_HOME-6-CALL_HOME_ENABLED: Call-home is enabled by Sm
art Agent for Licensing.

User Access Verification
Username: admin
Password:

Router>en
*Jul  9 12:16:47.696: %SEC_LOGIN-5-LOGIN_SUCCESS: Login Success [user: admin] [S
ource: LOCAL] [localport: 0] at 12:16:47 UTC Tue Jul 9 2024
Router#show ip int
*Jul  9 12:16:59.810: %NDEMAN-5-ACTIVE: BO/0: ndbmand: All data providers active
. brief
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet1 172.28.8.192    YES DHCP    up          up
GigabitEthernet2 unassigned      YES NVRAM   administratively down down
GigabitEthernet3 unassigned      YES NVRAM   down        down
GigabitEthernet4 unassigned      YES NVRAM   down        down
Loopback4        14.1.1.1        YES NVRAM   up          up
Router#
```

Go to Config Mode:

Conf t

user admin privilege 15 secret cisco123

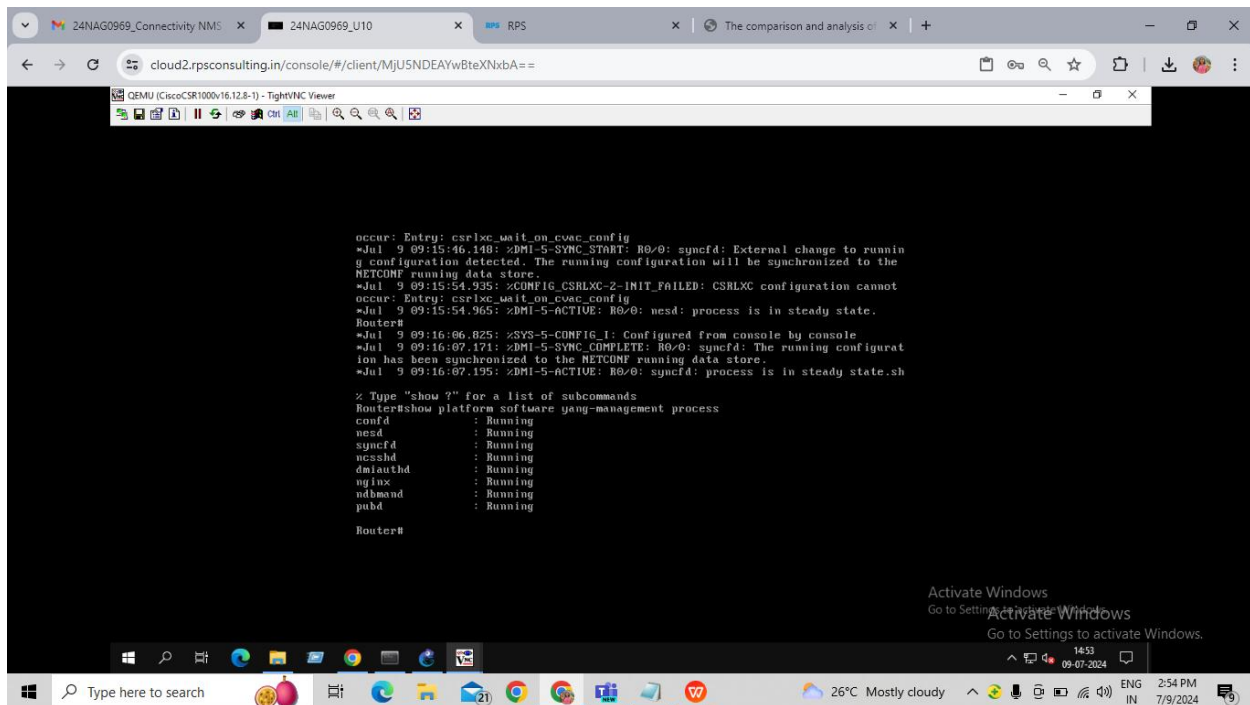
aaa new-model

aaa authentication login default local

aaa authorization exec default local

Netconf-yang

Show platform software yang-management process



Go to Command prompt and check the yang connectivity

Ssh admin@172.20.0.67 -p 830 -s netconf -- connect via cmd prompt

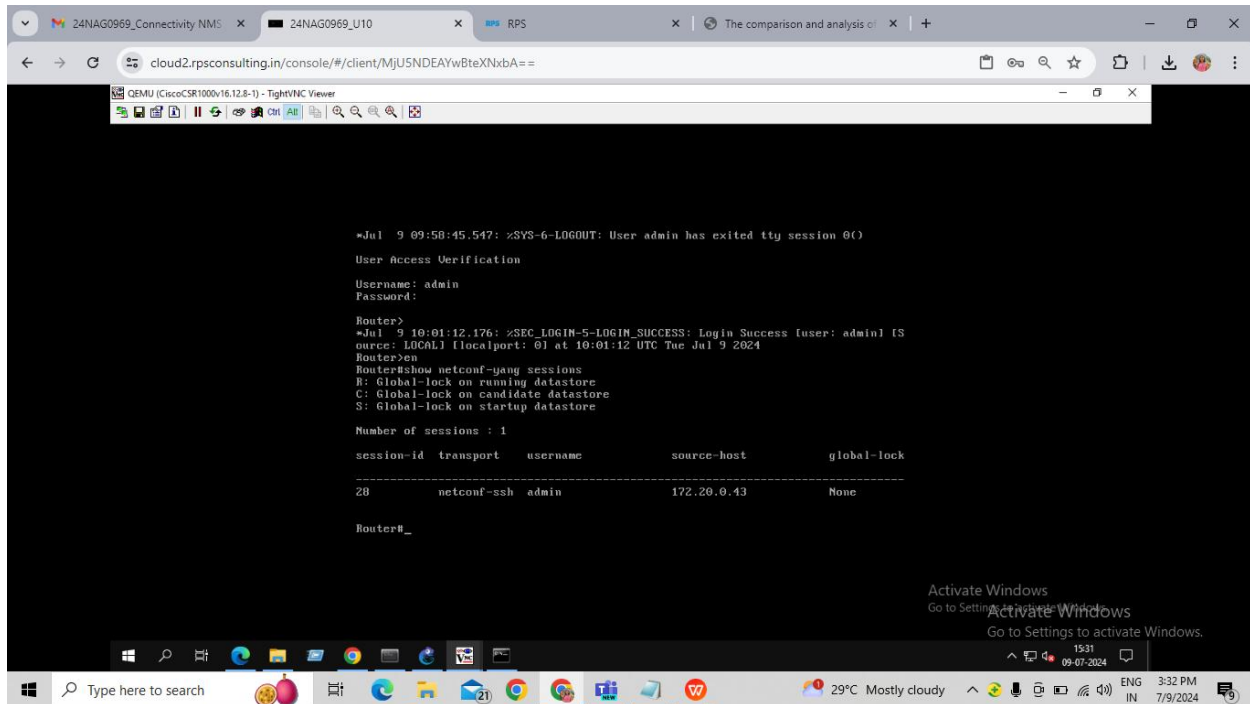
Start a NETCONF session by sending a hello message from the client.

Copy and paste the following XML code into the SSH session. Notice that the end of the client hello message is identified with a `]]>]]>`.

```
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<capabilities>
<capability>urn:ietf:params:netconf:base:1.0</capability>
</capabilities>
```

```
</hello>
]]>]]>
```

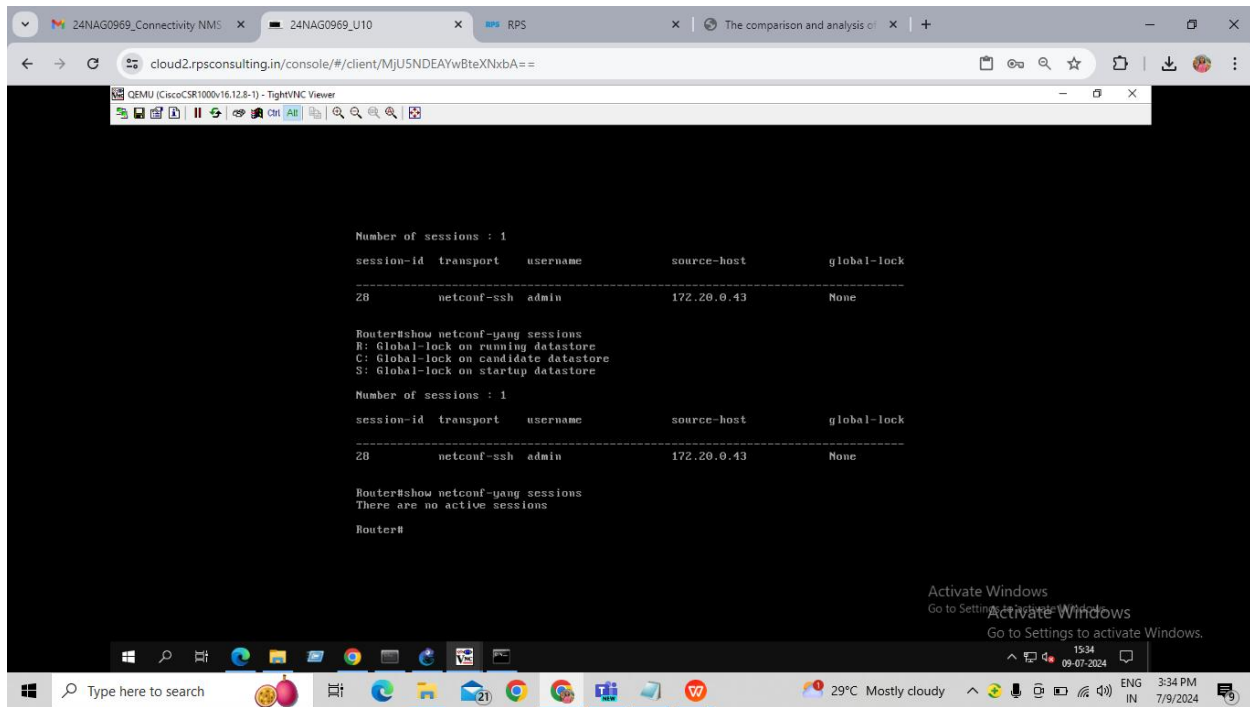
show netconf-yang sessions:



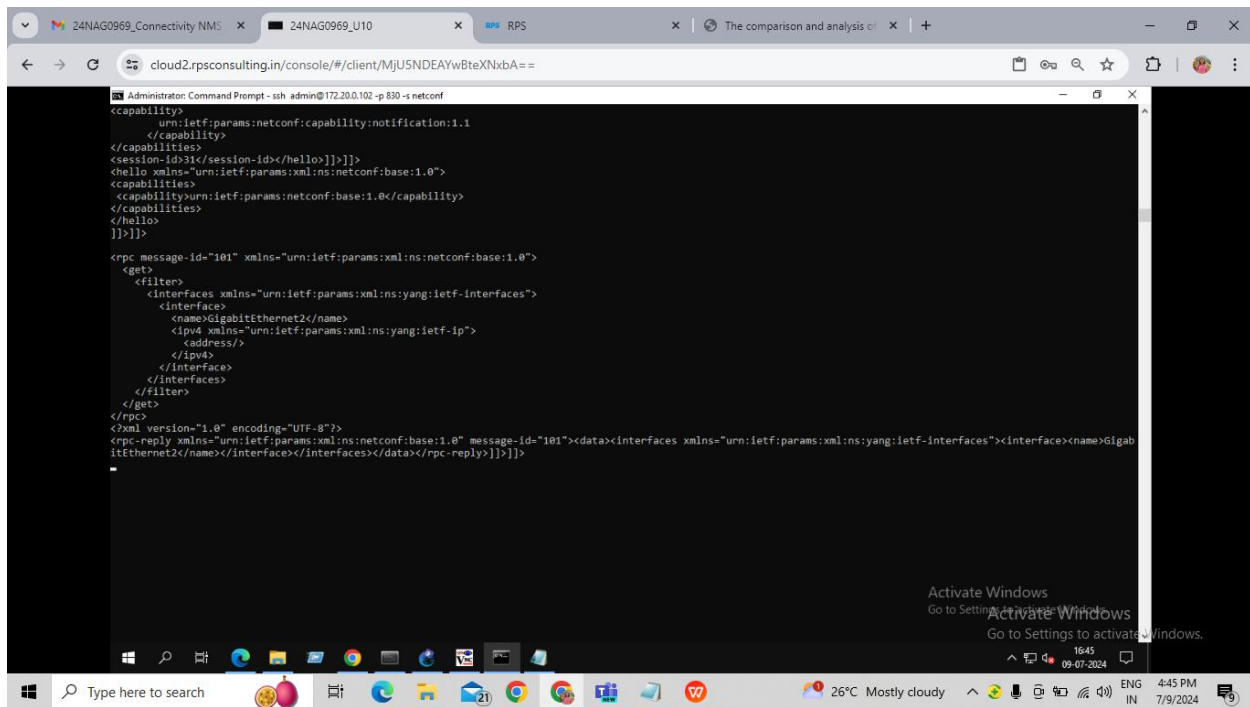
Close the NETCONF session

To close the NETCONF session, the client needs to send the following RPC message:

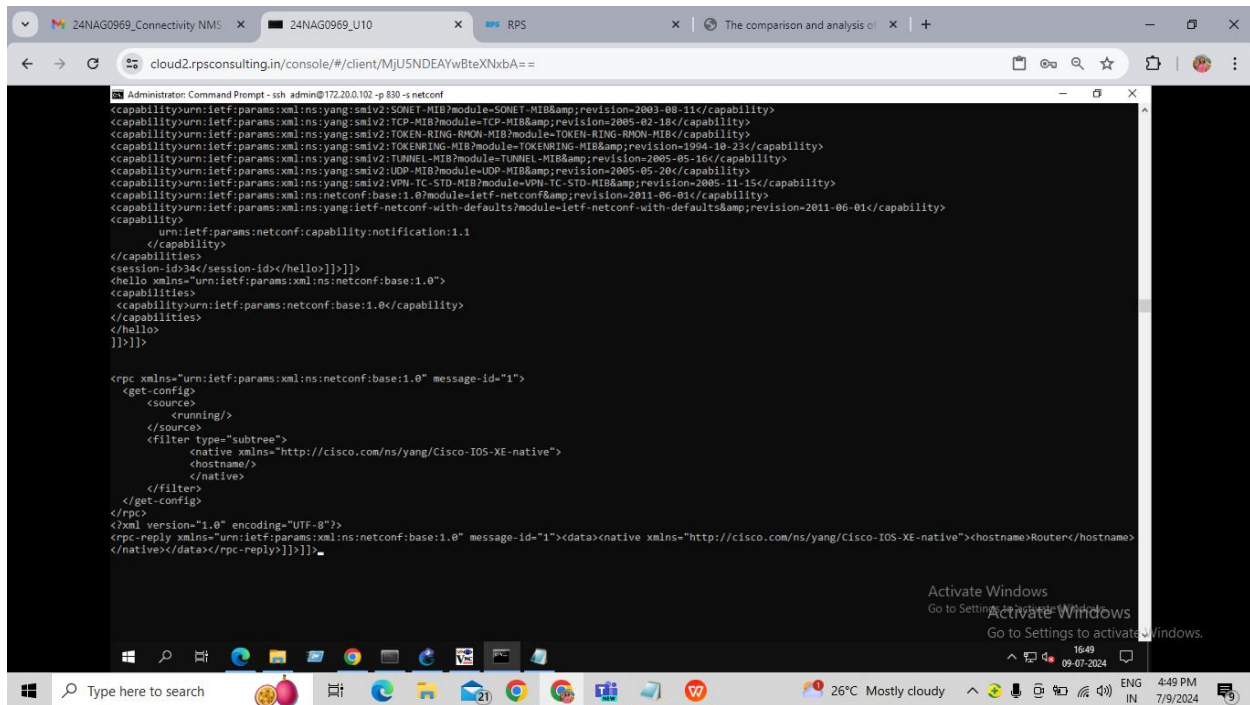
```
<rpc message-id="9999999"
xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<close-session />
</rpc>
```



Get the interface IP address details:



Get the router hostname:

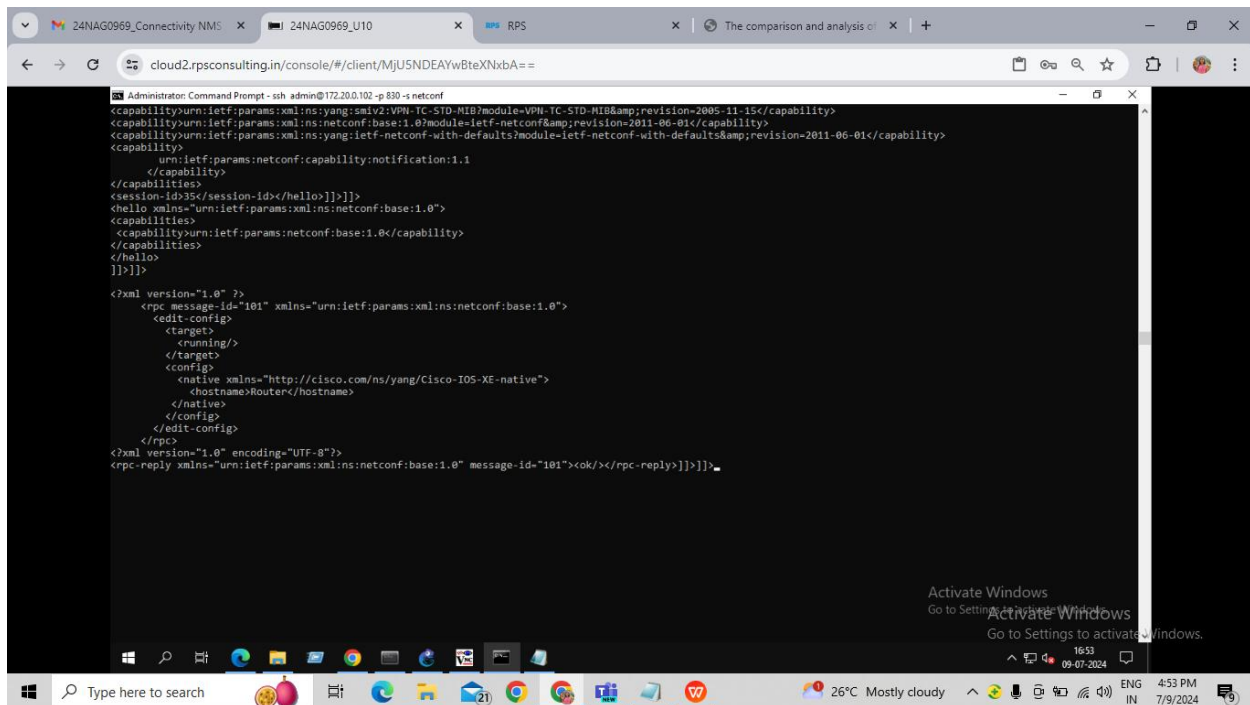


The screenshot shows a terminal window with a RESTCONF client interface. The user has executed a GET request to retrieve the configuration of the router. The response is an XML document containing the configuration data. The hostname is visible in the response.

```
Administrator: Command Prompt - ssh admin@172.20.0.102 -p 830 -i netconf
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:SONET-MIB?module=SONET-MIB&revision=2003-08-11</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TCP-MIB?module=TCP-MIB&revision=2005-02-18</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TOKEN-RING-RMON-MIB?module=TOKEN-RING-RMON-MIB</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TOKENRING-MIB?module=TOKENRING-MIB&revision=1994-10-23</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TUNNEL-MIB?module=TUNNEL-MIB&revision=2005-05-16</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:UDP-MIB?module=UDP-MIB&revision=2005-05-20</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:VPM-TC-STD-MIB?module=VPM-TC-STD-MIB&revision=2005-11-15</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf&revision=2011-06-01</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults?module=ietf-netconf-with-defaults&revision=2011-06-01</capabilities>
<capabilities>urn:ietf:params:netconf:capability:notification:1.1</capabilities>
</capabilities>
<session-id>34</session-id></hello>]]]]
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capabilities>
    <capability>urn:ietf:params:netconf:base:1.0</capability>
  </capabilities>
</hello>
]]]]>

<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <native xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-native">
        <hostname/>
      </native>
    </filter>
  </get-config>
</rpc>
<xml version="1.0" encoding="UTF-8">
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1"><data><native xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-native"><hostname>Router</hostname>
</native></data></rpc-reply>]]]]>
```

Change the router hostname

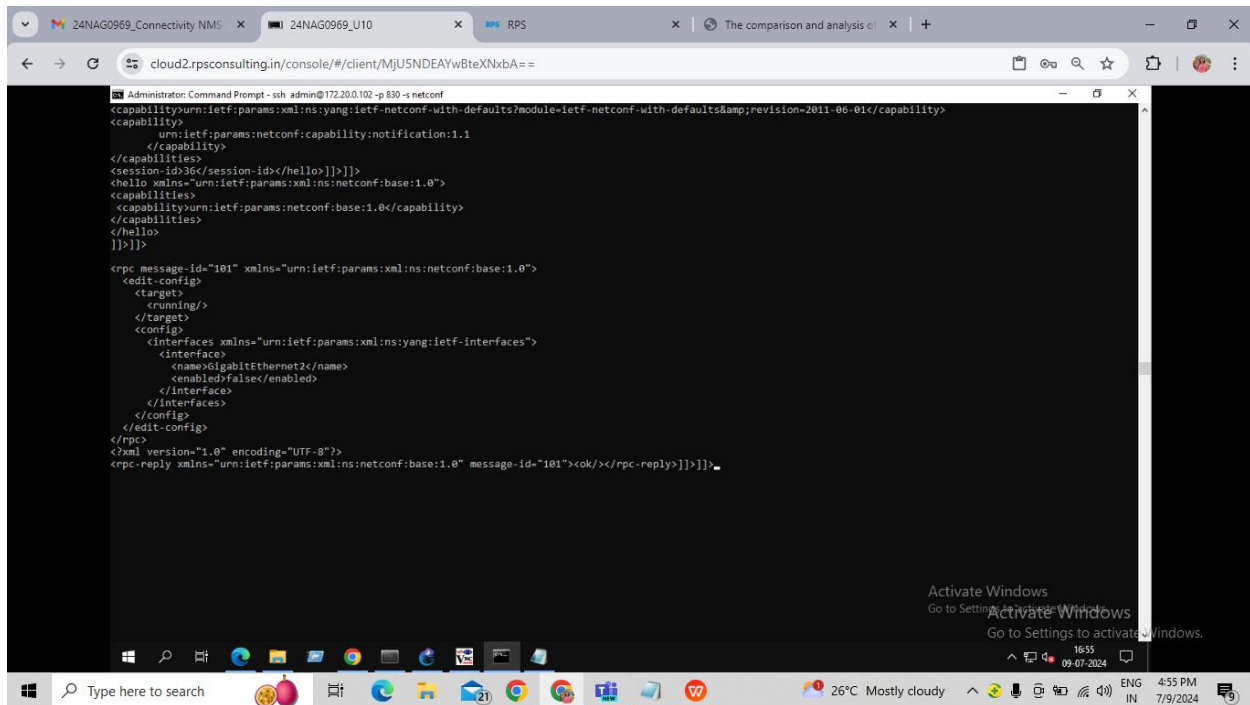


The screenshot shows a terminal window with a RESTCONF client interface. The user has executed a PUT request to change the router hostname. The response is an XML document containing the configuration data. The hostname is visible in the response.

```
Administrator: Command Prompt - ssh admin@172.20.0.102 -p 830 -i netconf
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:VPM-TC-STD-MIB?module=VPM-TC-STD-MIB&revision=2005-11-15</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:VPM-TC-STD-MIB?module=VPM-TC-STD-MIB&revision=2005-11-15</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf&revision=2011-06-01</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults?module=ietf-netconf-with-defaults&revision=2011-06-01</capabilities>
<capabilities>urn:ietf:params:netconf:capability:notification:1.1</capabilities>
</capabilities>
<session-id>35</session-id></hello>]]]]
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capabilities>
    <capability>urn:ietf:params:netconf:base:1.0</capability>
  </capabilities>
</hello>
]]]]>

<?xml version="1.0" ?>
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <edit-config>
    <target>
      <running/>
    </target>
    <config>
      <native xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-native">
        <hostname>Router</hostname>
      </native>
    </config>
  </edit-config>
</rpc>
<?xml version="1.0" encoding="UTF-8">
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101"><ok/></rpc-reply>]]]]>
```

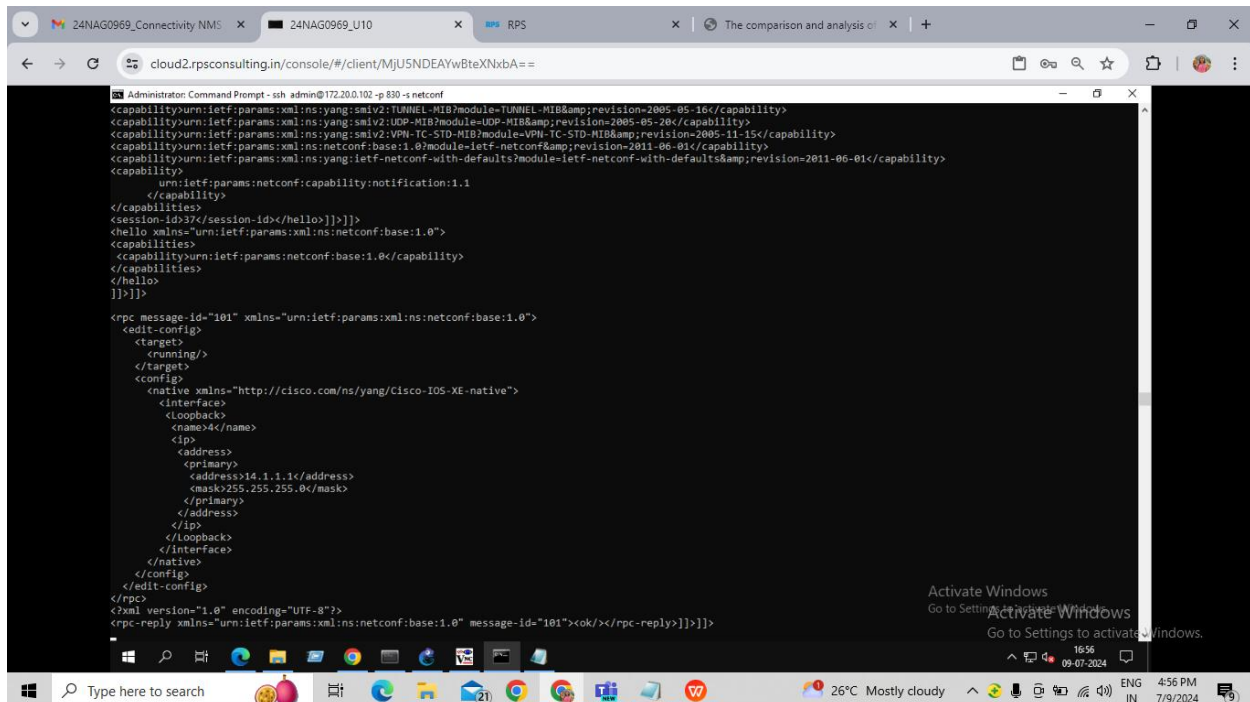
Change the interface status to down



```
Administrator Command Prompt - ssh admin@172.20.0.102 -p 830 -s netconf
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults&module=ietf-netconf-with-defaults&revision=2011-06-01</capabilities>
<capability>urn:ietf:params:netconf:capability:notification:1.1</capability>
</capabilities>
<session-id>364/session-id</hello>]]]]
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<capabilities>
<capability>urn:ietf:params:netconf:base:1.0</capability>
</capabilities>
</hello>
]]]]]
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<edit-config>
<target>
<running/>
</target>
<config>
<interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
<interface>
<name>GigabitEthernet2</name>
<enabled>false</enabled>
</interface>
</interfaces>
</config>
</edit-config>
</rpc>
<?xml version="1.0" encoding="UTF-8"?>
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101"><ok></rpc-reply>]]]]]

```

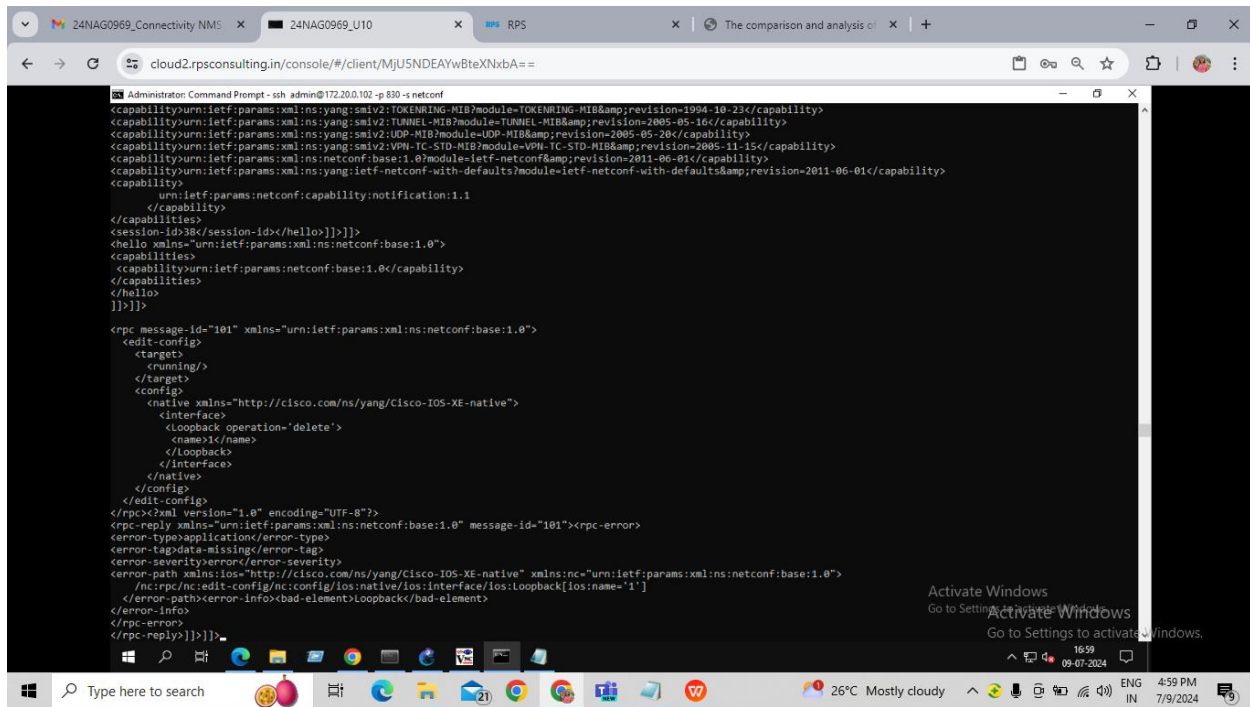
Create the Loopback interface



```
Administrator Command Prompt - ssh admin@172.20.0.102 -p 830 -s netconf
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TUNNEL-MIB&module=TUNNEL-MIB&revision=2005-05-16</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:UDP-MIB&module=UDP-MIB&revision=2005-05-20</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:VPN-TC-STD-MIB&module=VPN-TC-STD-MIB&revision=2005-11-15</capabilities>
<capabilities>urn:ietf:params:xml:ns:netconf:base:1.0&module=ietf-netconf&revision=2011-06-01</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults&module=ietf-netconf-with-defaults&revision=2011-06-01</capabilities>
</capabilities>
<session-id>374/session-id</hello>]]]]
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<capabilities>
<capability>urn:ietf:params:netconf:base:1.0</capability>
</capabilities>
</hello>
]]]]]
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<edit-config>
<target>
<running/>
</target>
<config>
<native xmlns="http://cisco.com/ns/yang/Cisco-IOX-XE-native">
<interface>
<loopback>
<name>4</name>
<ip>
<address>
<primary>
<address>14.1.1.1</address>
<mask>255.255.255.0</mask>
</primary>
</address>
</ip>
</loopback>
</interface>
</native>
</config>
</edit-config>
</rpc>
<?xml version="1.0" encoding="UTF-8"?>
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101"><ok></rpc-reply>]]]]]

```


Delete the Loopback interface



```
Administrator: Command Prompt - ssh admin@172.20.0.102 -p 830 -i netconf
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TOKENRING-MIB&revision=1994-10-23</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:TUNNEL-MIB&revision=2005-05-16</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:UDP-MIB&revision=2005-05-20</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:smiv2:VPN-TC-STD-MIB&revision=2005-11-15</capabilities>
<capabilities>urn:ietf:params:xml:ns:netconf:base:1.0</capabilities>
<capabilities>urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults&revision=2011-06-01</capabilities>
</capabilities>
urn:ietf:params:netconf:capability:notification:1.1
</capabilities>
<session-id>38</session-id></hello>]]]]
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capabilities>
    <capabilities>urn:ietf:params:netconf:base:1.0</capabilities>
  </capabilities>
</hello>
]]]]]
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <edit-config>
    <target>
      <running/>
    </target>
    <config>
      <native xmlns="http://cisco.com/ns/yang/Cisco-IOS-XE-native">
        <interface>
          <loopback operation="delete">
            <name></name>
          </loopback>
        </interface>
      </native>
    </config>
  </edit-config>
</rpc><?xml version="1.0" encoding="UTF-8"?>
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="101"><rpc-error>
  <error-type>application</error-type>
  <error-tag>data-missing</error-tag>
  <error-severity>error</error-severity>
  <error-path xmlns:ios="http://cisco.com/ns/yang/Cisco-IOS-XE-native" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0">
    /nc:rpc/nc:edit-config/nc:config/ios:native/ios:interface/ios:Loopback[ios:name='1']
  </error-path><error-info><bad-element>Loopback</bad-element>
</error-info>
</rpc-error>
</rpc-reply>]]]]]

```

Activate Windows
Go to Settings to activate Windows.

16:59
09-07-2024

26°C Mostly cloudy
ENG
IN
4:59 PM
7/9/2024