

Lab – raw NETCONF

Objectives

Part 1: Verify that NETCONF is Running on the IOS XE

Background / Scenario

In this lab, you will learn how to verify that the NETCONF service is running on the device by directly connecting to its port using an SSH client. You will be sending raw NETCONF Remote Procedure Calls encoded in XML structures.

Required Resources

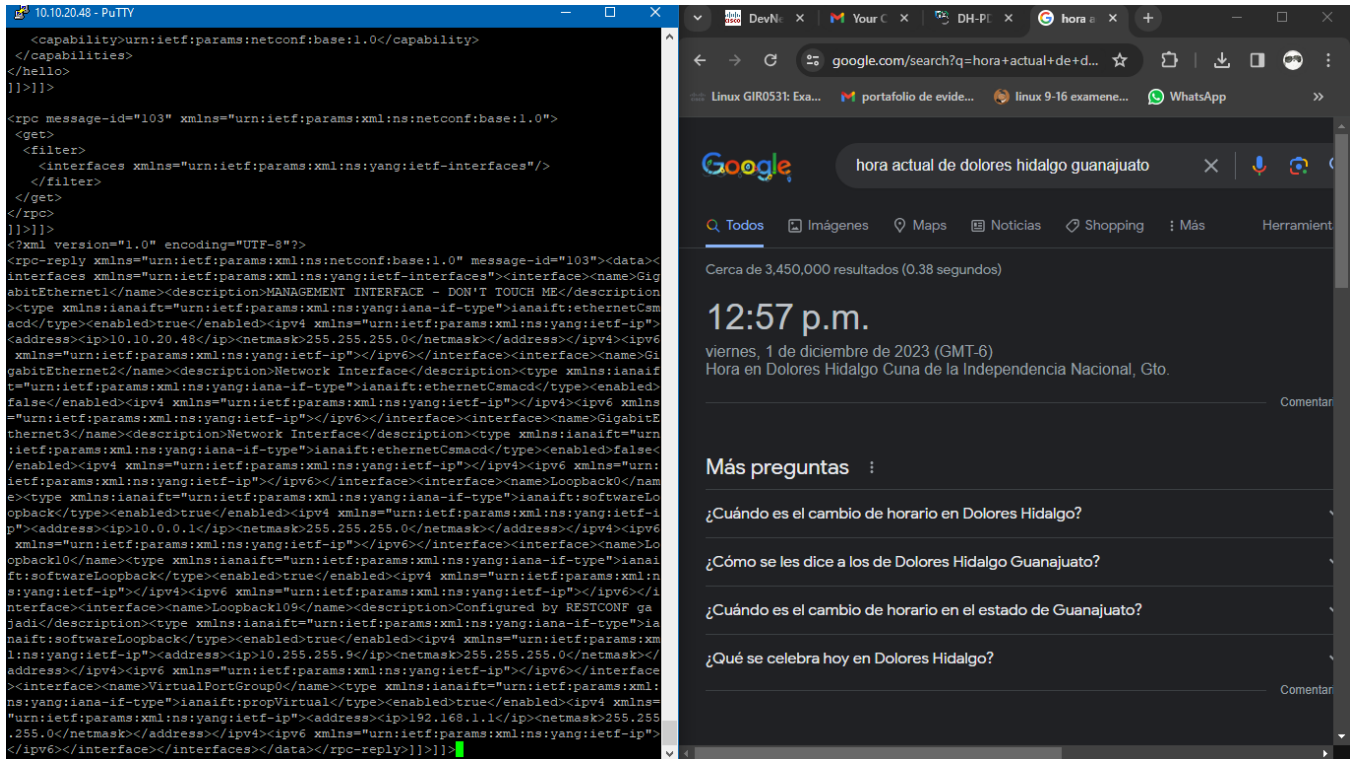
- Access to a router with the IOS XE operating system version 16.6 or higher
- Putty

Part 1: Verify that NETCONF is Running on the IOS XE

Step 1: Use Putty as an SSH client to connect to the NETCONF service.

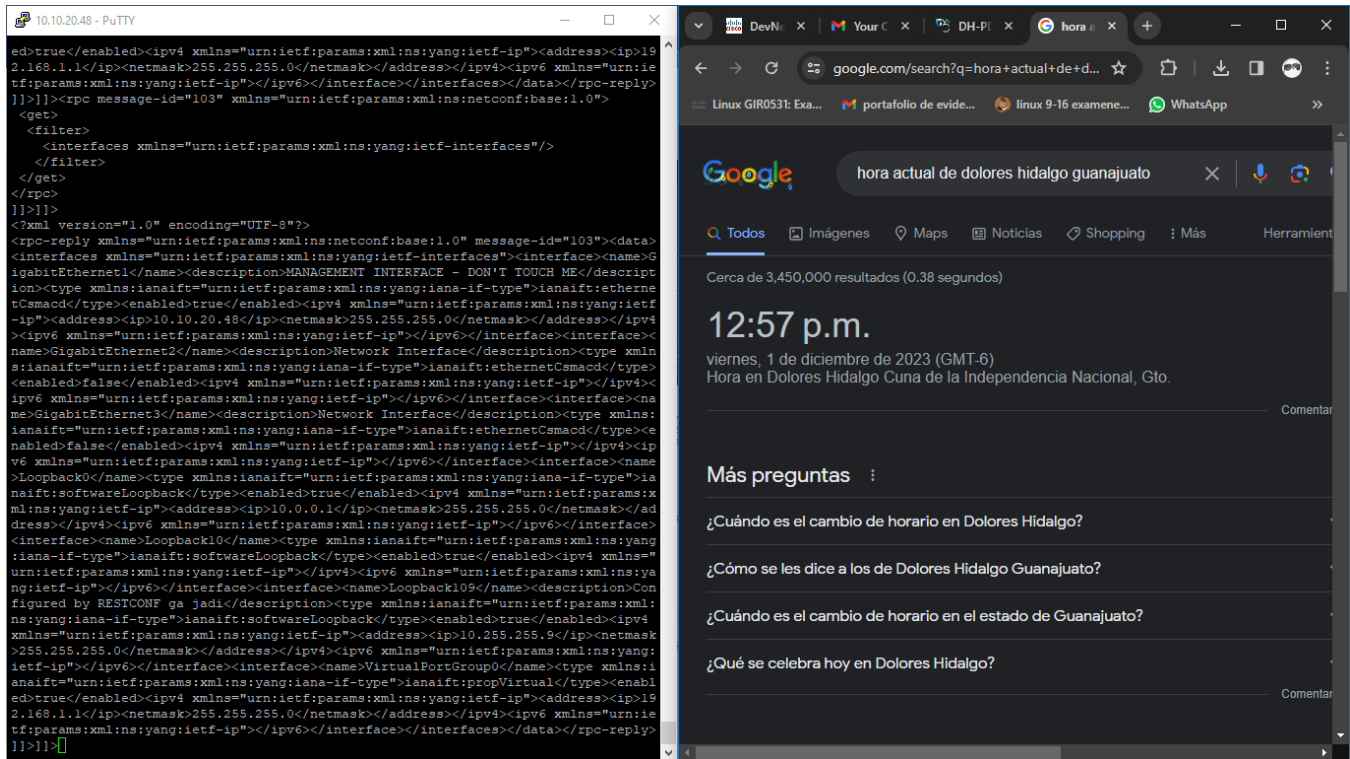
- Start Putty.
- Using Putty, connect to host “192.168.56.101” (Adjust the IP address to match the router’s current address.) and port “830”.
- Login as “cisco” with the password “cisco123!” that was configured in IOS XE VM.
- After a successful login to the NETCONF server, you should see a server “hello” message with an XML formatted list of supported YANG models (capabilities).
- The end of the message is identified with “]]>]]>”.
- To start a NETCONF session, the client needs to send its own hello message in a response:

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



- g. After the client hello message has been sent, the NETCONF session is ready to process RPC messages. For example, the following XML formatted RPC message will return the ietf-interfaces model data. Please note that the returned XML data are designed to be consumed by an application. By default, this data might be difficult for humans to read.

```
<rpc message-id="103" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get>
    <filter>
      <interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces"/>
    </filter>
  </get>
</rpc>
]]>]]>
```



- h. To close the NETCONF session, the client needs to send the following message:

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

capturas

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The screenshot displays the Cisco DevNet Sandbox interface. The top navigation bar includes "DEVNET", "SANDBOX LABS", and "RESERVATIONS". The main content area shows a network diagram with nodes like "N9k-e7ac3074", "VLAN - VLAN 247", and "IOS XE Cat 8Kv-938". A "PuTTY Configuration" dialog box is open, showing the "Basic options for your PuTTY session" with the host "10.10.20.48" and port "830". Below the diagram, there are two tables of credentials:

Catalyst 8000v Credentials

host	port	username	password
10.10.20.48	22	developer	C1sco12345
10.10.20.48	830	developer	C1sco12345
10.10.20.48	443	developer	C1sco12345

Developer Box Credentials

host	port	username	password
10.10.20.50	22	developer	C1sco12345
localhost	2222	developer	C1sco12345

A terminal window titled "10.10.20.48 - PuTTY" is open, showing the output of a "show capabilities" command. The output lists various capabilities and their revision numbers, including "ietf:params:netconf:capability:notification:1.1".

On the right, a Google search results page is visible for the query "hora actual de dolores hidalgo guanajuato". The results show the current time as "12:57 p.m." on "viernes, 1 de diciembre de 2023 (GMT-6)".