Lab – raw NETCONF

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Objectives

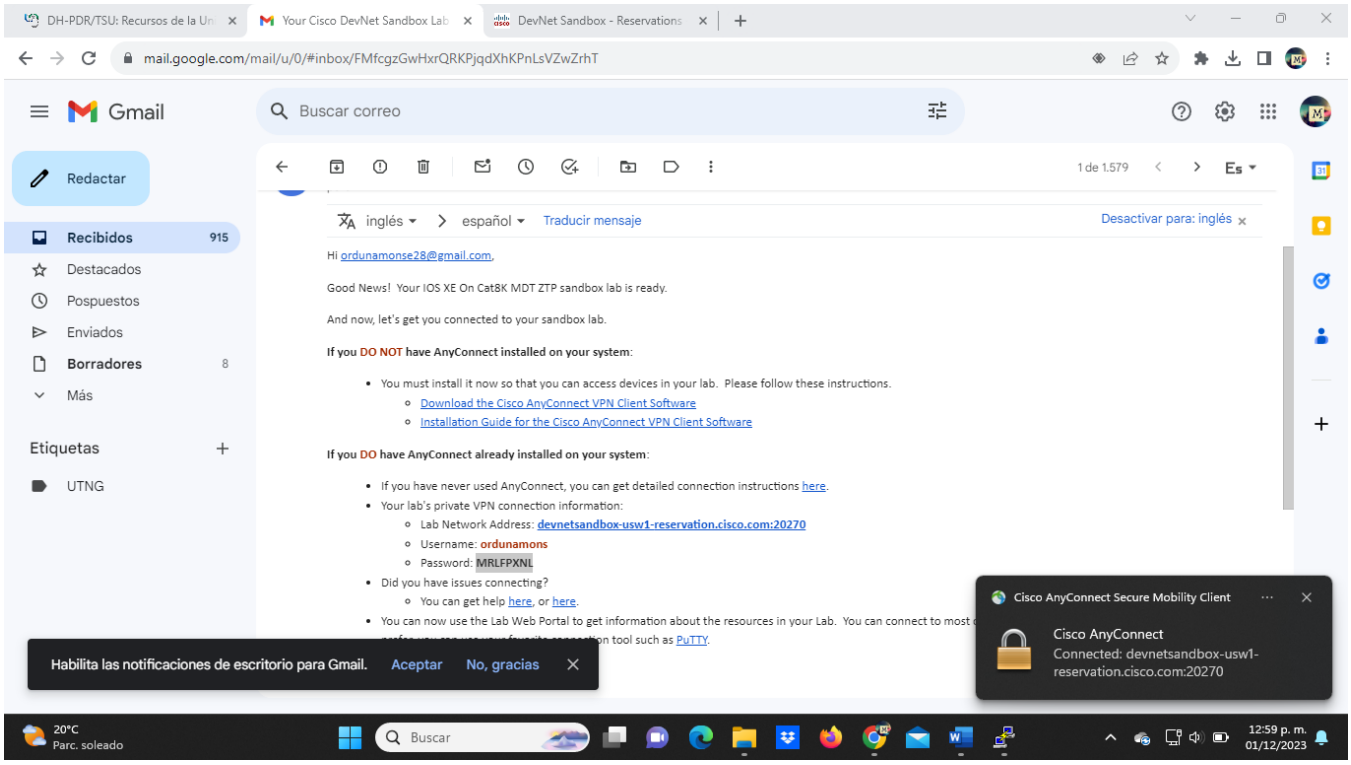
Part 1: Verify that NETCONF is Running on the IOS XE

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



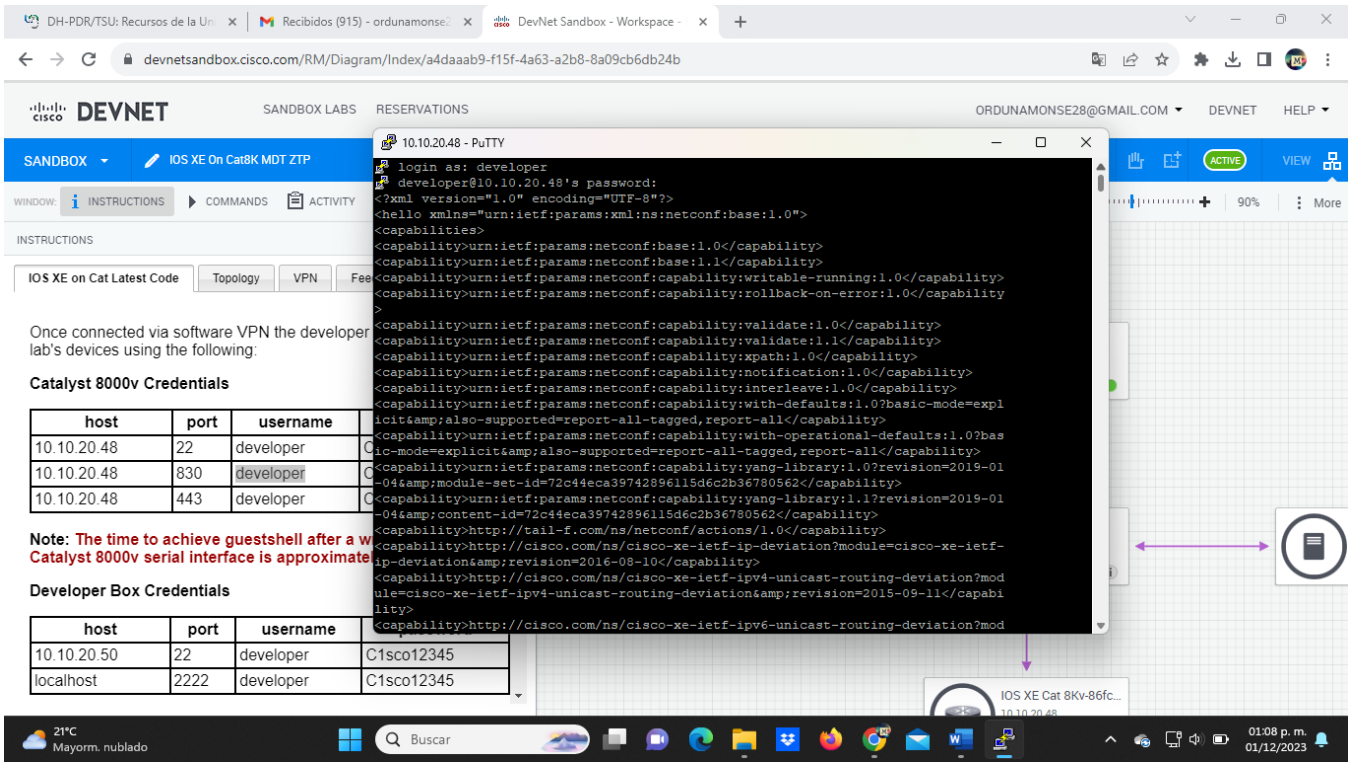
Part 1: Verify that NETCONF is Running on the IOS XE

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

a. Start Putty.

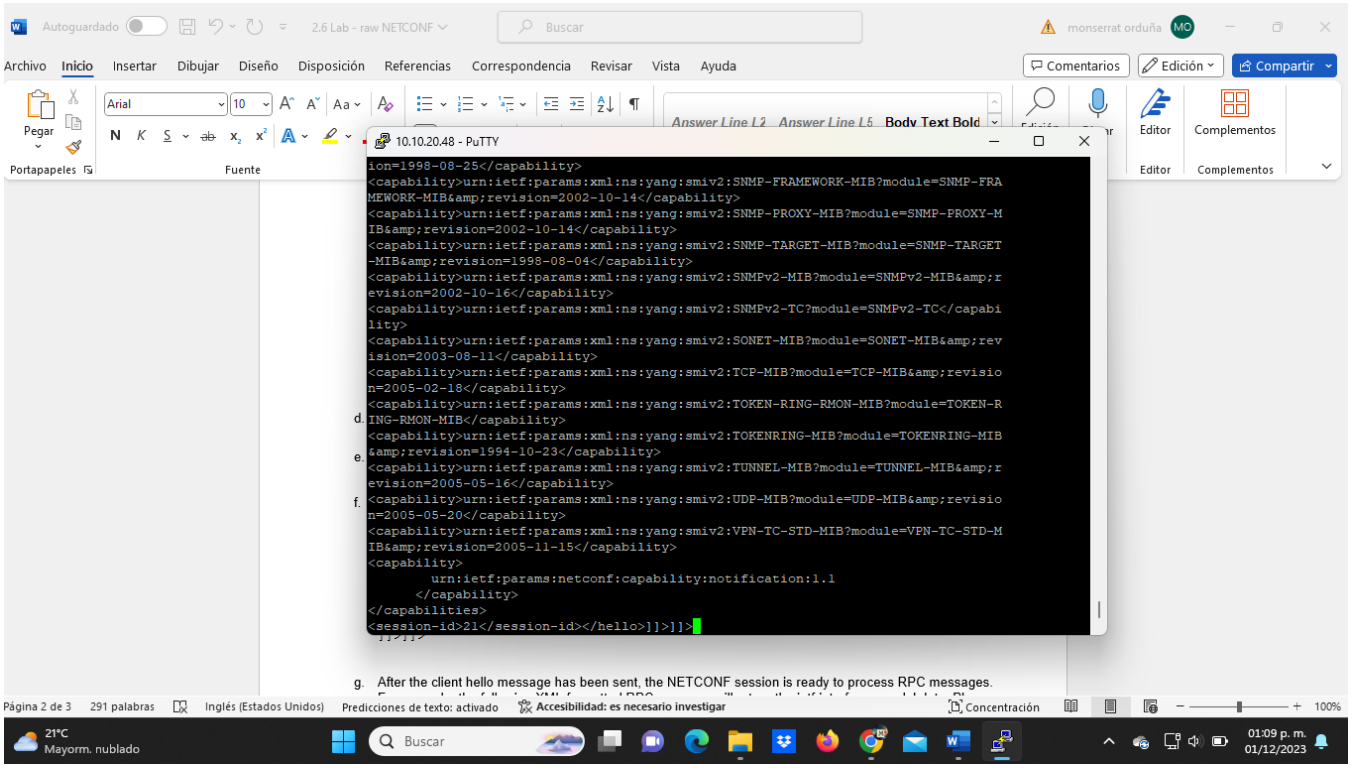
b. Using Putty, connect to host “192.168.56.101” (Adjust the IP address to match the router’s current address.) and port “830”.

c. Login as “cisco” with the password “cisco123!” that was configured in IOS XE VM.



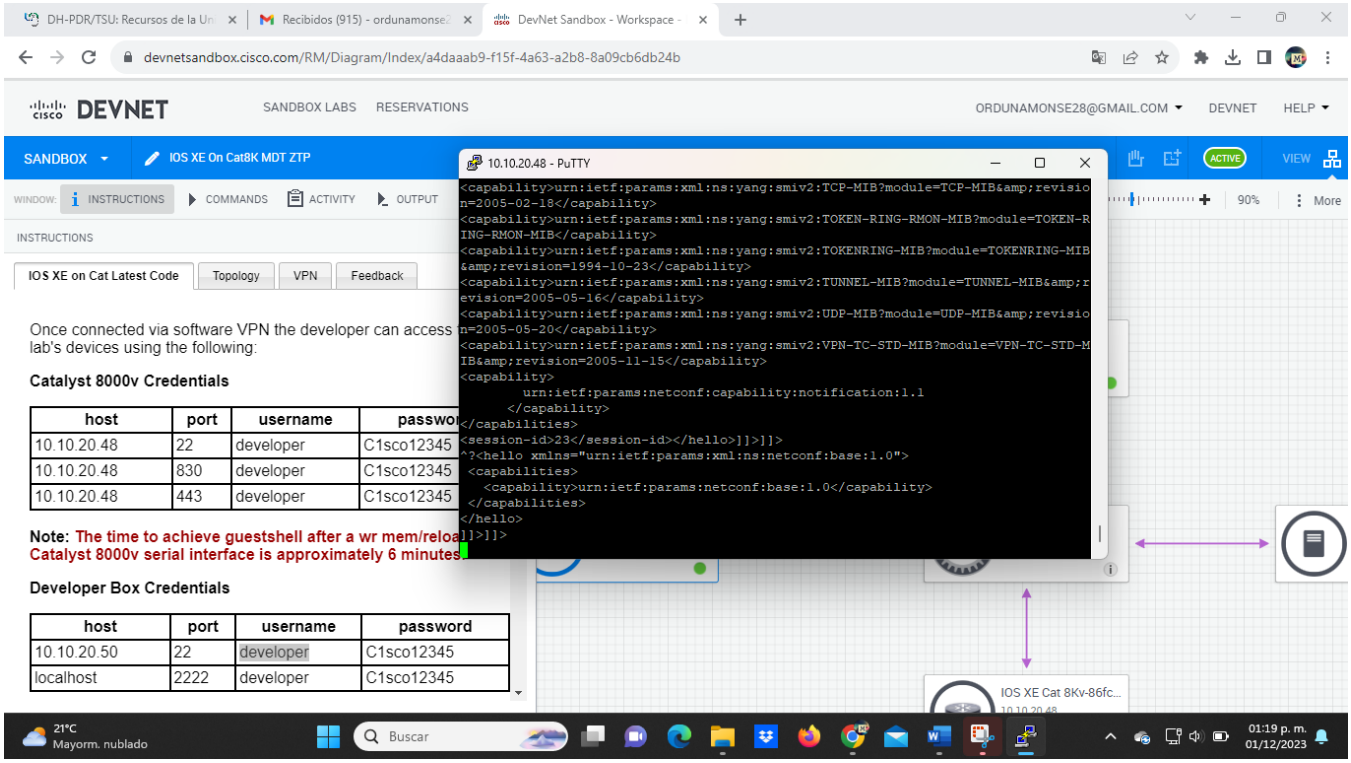
d. After a successful login to the NETCONF server, you should see a server “hello” message with an XML formatted list of supported YANG models (capabilities).

e. The end of the message is identified with “]]>]]>”.



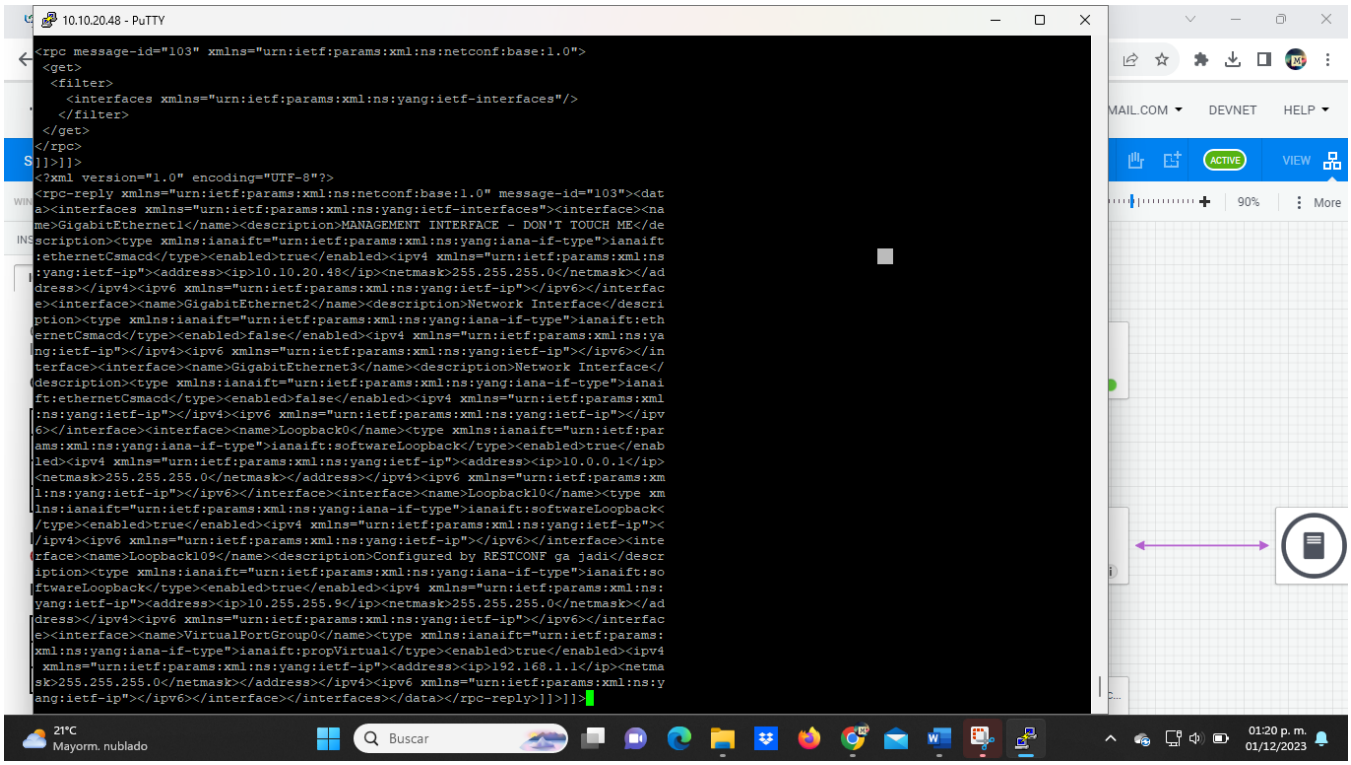
f. To start a NETCONF session, the client needs to send its own hello message in a response:

```
<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 to 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>
]]>]]>
```