

Lab 5-2: Graphical Management Tools

Complete this lab activity to practice what you learned in the related module.

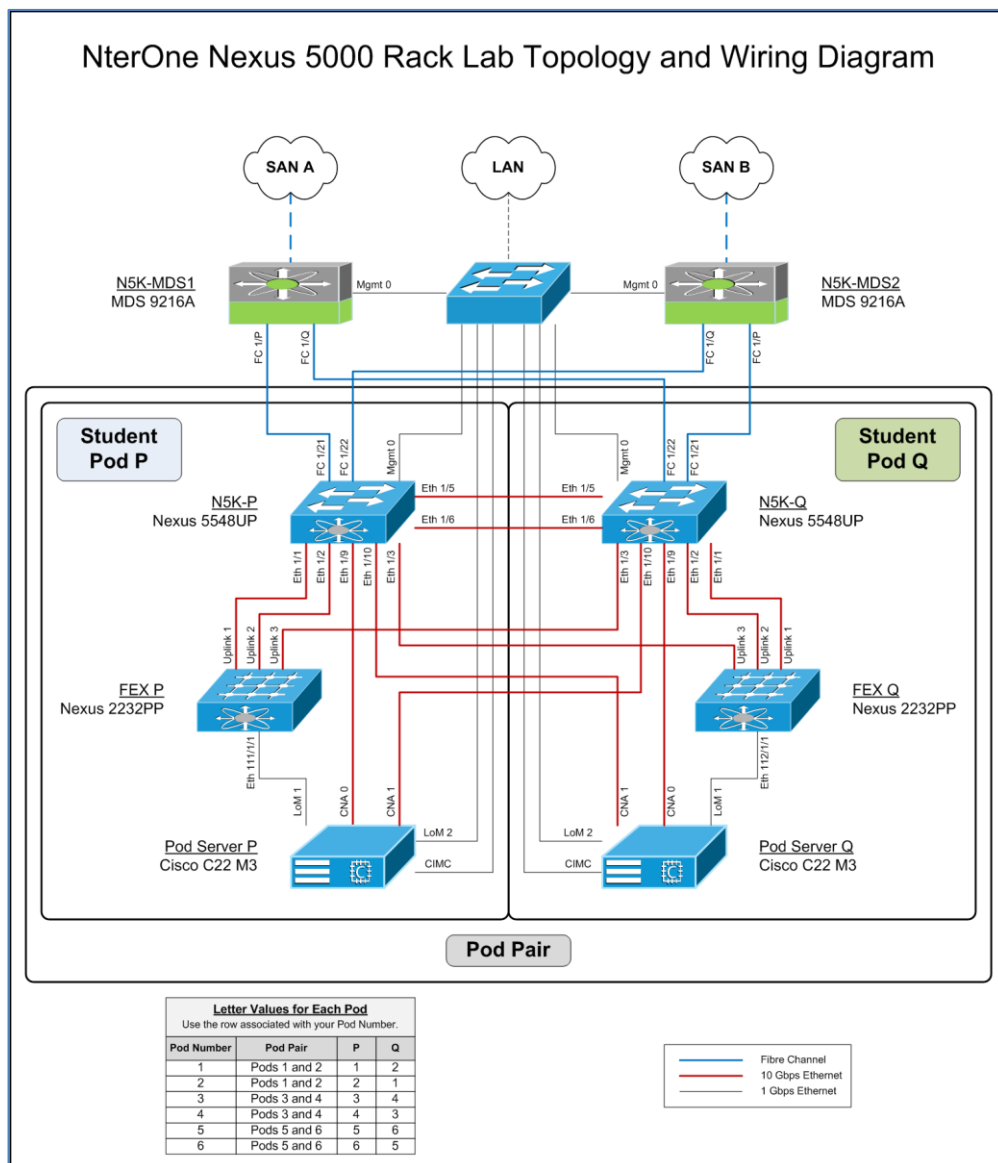
Activity Objectives

In this activity, you will use graphical management tools to discover the network. After completing this activity, you will be able to meet these objectives:

- Use Cisco Prime DCNM to monitor the network
- Use Cisco Device Manager to monitor the switch

Visual Objective

The figure illustrates what you will accomplish in this activity.



Command List

The table describes the commands that are used in this activity.

Command	Description
show diff rollback-patch startup-config running- config	Performs a difference between two files
show running-config include clock	Displays the running configuration

Task 0: Load the Baseline Configuration

During this task, you will reset your pod's Cisco Nexus 5000 Series Switch (also referred to as your pod switch) to a baseline configuration to prepare for the remaining tasks of this lab.

Activity Procedure

Complete these steps:

Step 1 Connect to the Student Server assigned to you by your instructor for this lab Use the server information and account credentials that are listed in the *Lab Support Document*.

Note Refer to *Accessing the NterOne Lab Equipment* for detailed instructions regarding how to use Remote Desktop Connection (RDC) to connect to your Student Server.

Step 2 From your Student Server, connect to your pod switch using PuTTY. You can connect to the switch using either the console port or SSH.

Step 3 Login to the switch with the credentials below:

- Username: **admin**
- Password: **Nterone179**

Step 4 In this step you will be “cleaning up” the configuration of your pod switch in preparation for the other tasks in this lab. Copy the “cleanup” configuration from the saved file in the bootflash to the running configuration.

Note Replace “P” with your assigned pod number for this lab

```
N5K-P# copy bootflash:/configs/n5k-P-cleanup.txt running-config
< ... output omitted ... >
Copy complete, now saving to disk (please wait)...
```

Note You will see a number of what looks like error messages scroll by; this is normal behavior. The cleanup config is attempting to remove statements from the running configuration that may or may not exist.

Step 5 Copy the “cleaned up” running configuration to the startup configuration. This is useful if, while performing the following steps in this lab, you made a number of mistakes in the configuration and need to quickly put the switch back to a “clean” state by simply reloading the switch.

```
N5K-P# copy running-config startup-config
```

```
[#####] 100%
Copy complete, now saving to disk (please wait)...
```

Step 6 Copy the lab baseline configuration from the saved file in the bootflash into the running configuration using the command below.

Note Replace "P" with your assigned pod number for this lab

```
N5K-P# copy bootflash:/configs/dcnx5k/dcnx5k-lab-2-03-n5k-P.txt running-config
< ... output omitted ... >
Copy complete, now saving to disk (please wait)...
```

Note You will see a number of what looks like error messages scroll by; this is normal behavior.

Activity Verification

You have completed this task when you attain these results:

- You have reconfigured your pod switch with the baseline configuration for this lab.

Task 1: Manage the Switch with Cisco Device Manager

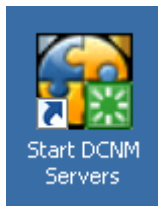
During this exercise, you will launch Cisco Device Manager and explore the available switch management and configuration options.

Activity Procedure

Complete these steps:

Step 7 Connect to your Student Server.

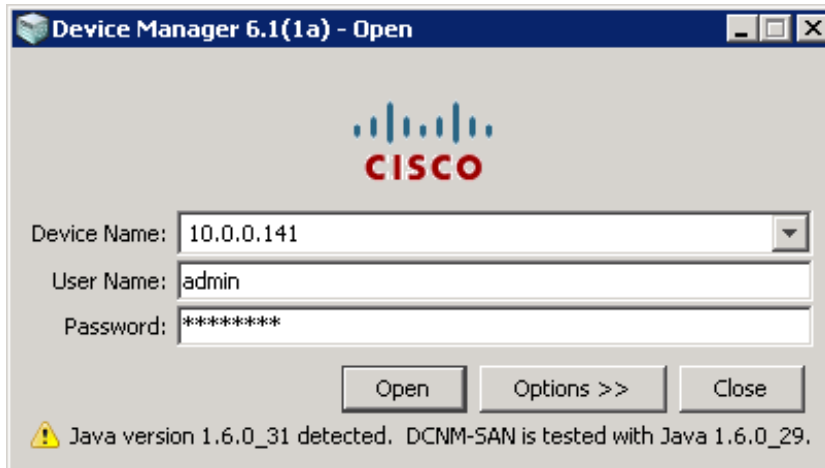
Step 8 Make sure that the DCNM services have been started by double-clicking on the "Start DCNM Servers" desktop icon.



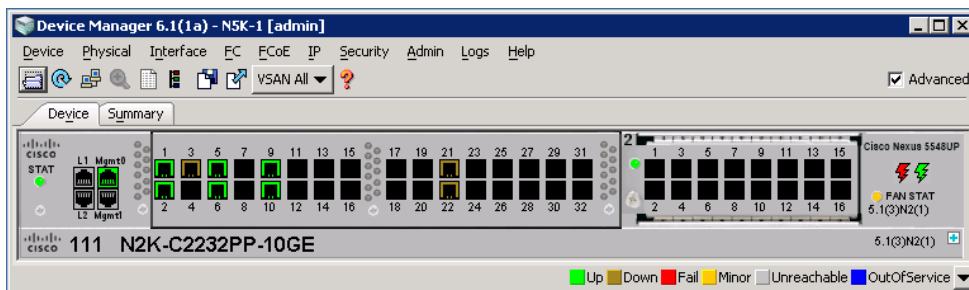
Step 9 Launch the Cisco Device Manager using the desktop icon.



Step 10 Enter the management IP address of your switch in the Device Name field, and log into your switch with the username **admin** and password **Nterone179**. Click Open.



Step 11 The Cisco Device Manager main window will appear.



Step 12 From the Device menu, choose Command Line Interface. This provides the ability to open a CLI from within the Cisco Device Manager.



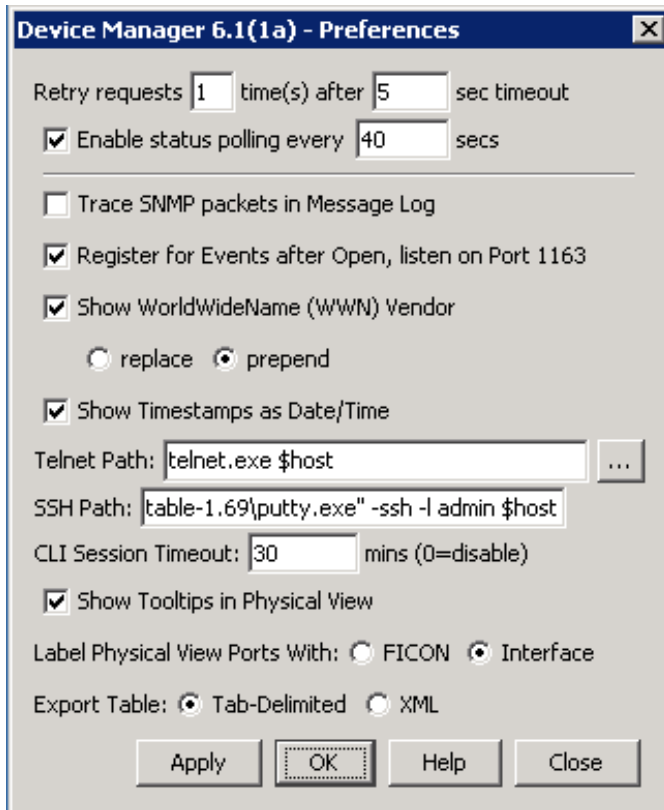
Step 13 To utilize SSH to open the CLI session, the path to the SSH client must be defined. From the Device menu, choose Preferences and enter the path to the SSH client as shown. Additional parameters may also be included. Click OK.

SSH Path = "C:\Program Files (x86)\mRemoteNG-Portable-1.69\putty.exe" -ssh -l admin \$host

The `-ssh` option specifies SSH as the protocol

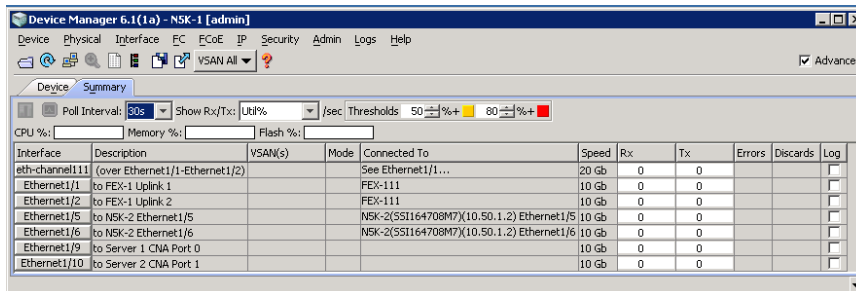
The `-l` option is the username

The `$host` option is the IP address



Step 14 From the Device menu, choose Command Line Interface. You should be able to successfully log into the switch. Exit the CLI session.

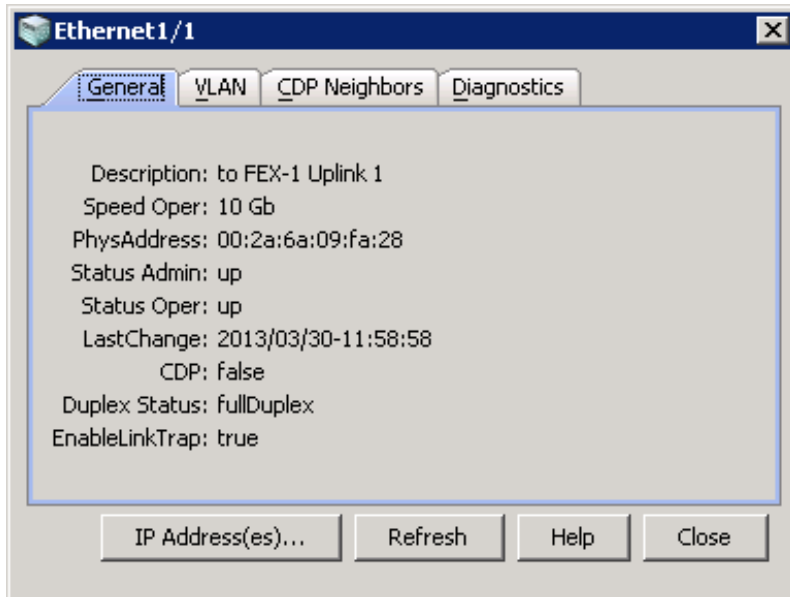
Step 15 Click the summary tab from the main Cisco Device Manager window.



Q1) Which interfaces are listed in the summary tab?

Q2) What information is listed under the Connected To column?

Step 16 Click one of the Ethernet interfaces under the interface column.

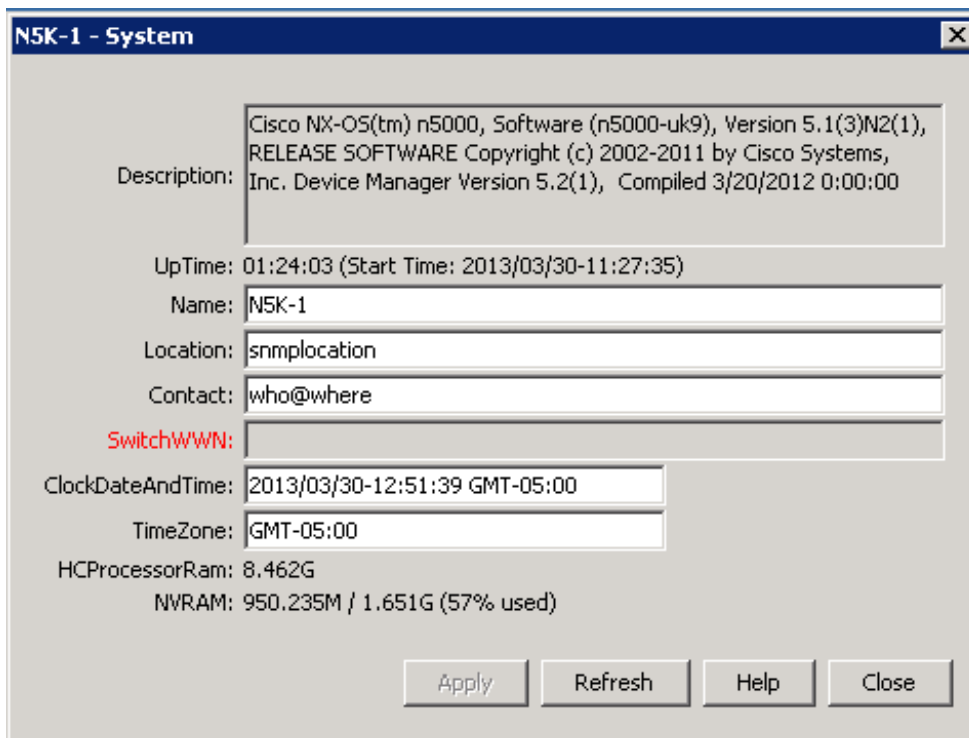


Step 17 Explore the information visible in all of the tabs of the interface window. Close the window when you are done.

Step 18 Click the Device tab from the main Cisco Device Manager window.

Q3) What window appears when you double click on one of the operational (green) interfaces?

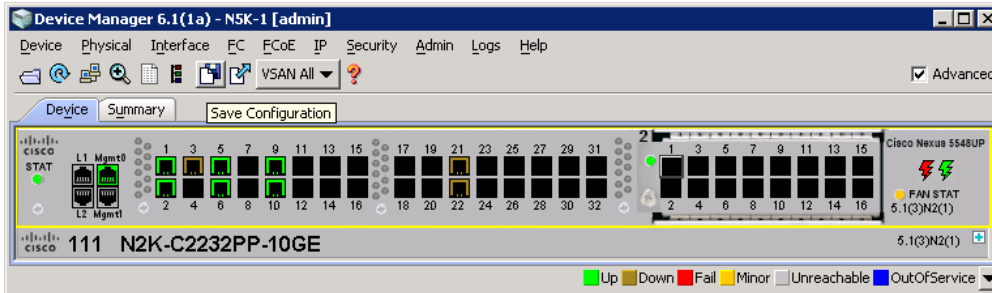
Step 19 Double click on the system area of Device manager. The system area is located to the left of the Mgmt0 interface, where the STAT indicator is located. Assign a time zone and apply the change.



Step 20 Close the system window and open a CLI session from within Cisco Device Manager. Verify that the time zone is present in the running configuration.

```
N5K-P# show running-config | include timezone
clock timezone EST -5 0
```

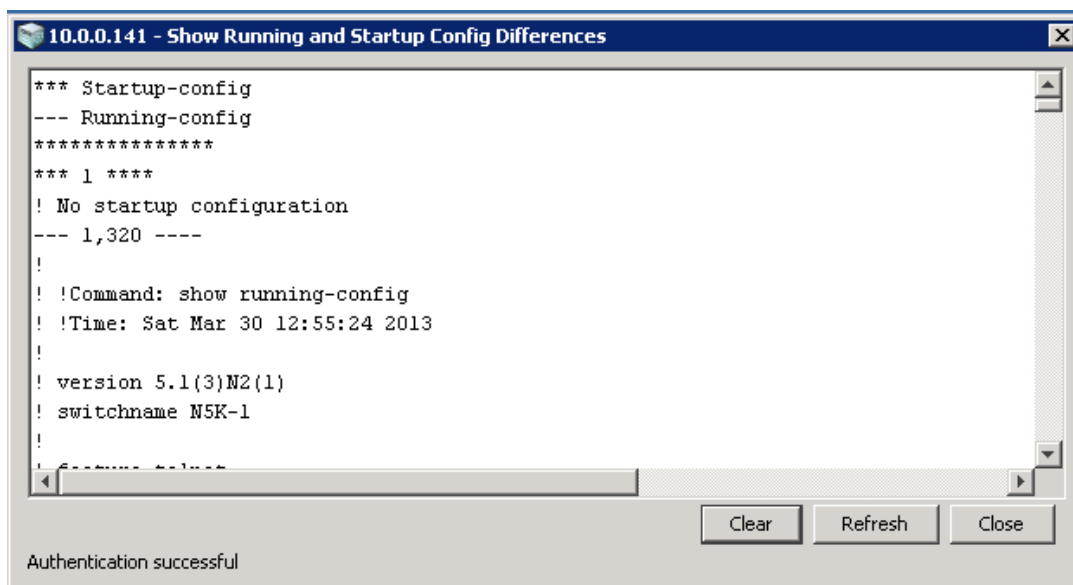
Step 21 Leave the CLI session window open and return to Cisco Device Manager. Click the save configuration icon from the main window.



Step 22 Click details to see what will be saved.



Step 23 The configuration differences will be displayed.



Step 24 Close the window that displays the differences and click the save configuration icon from the main window. Click yes to save the configuration.



Step 25 Take some time to explore additional Cisco Device Manager features and options.

Q4) Determine the number and type of power supplies that are installed in the switch chassis. Are both installed and operational?

Activity Verification

You have completed this task when you attain these results:

- You have logged in to Cisco Device Manager from your server.
- You have established an SSH session to your switch using Cisco Device Manager.
- You have explored the configuration and management abilities of Cisco Device Manager.
- You have compared and saved a configuration using Cisco Device Manager.

Task 2: Discover the Network with Cisco Prime DCNM LAN

During this task, you will use log in to Cisco Prime DCNM LAN to discover and monitor the Cisco Nexus 5000 Series Switch platform and the LAN fabric.

Activity Procedure

Complete these steps:

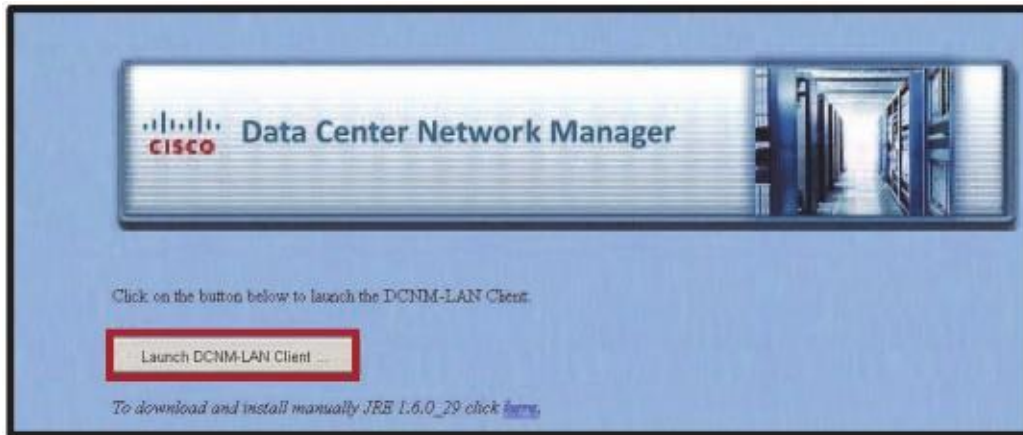
Step 26 From your student desktop, launch Cisco Prime DCNM LAN from the desktop icon.



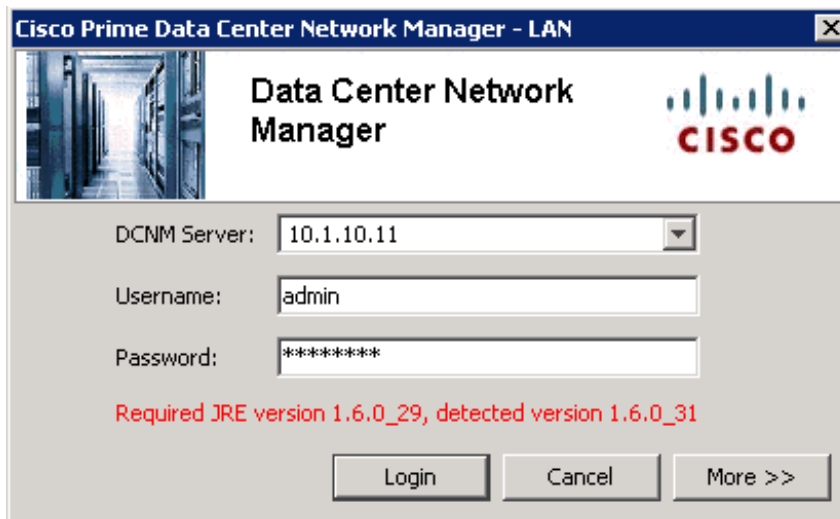
Step 27 If the Cisco Prime DCNM LAN icon is not available, open the URL below in Internet Explorer, where P is your real pod number.

<http://10.1.10.1P:8080/dcnm-client/index.html>

Step 28 The Cisco Prime DCNM LAN page will appear. Click Launch DCNM-LAN Client. Click Run when the Security Warning appears.



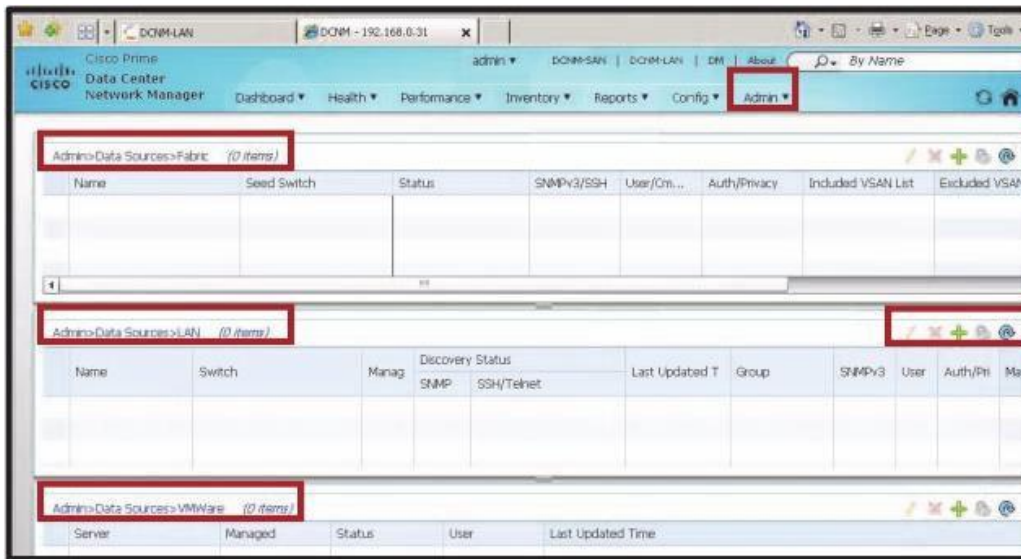
Step 29 When the Cisco Prime DCNM – LAN window appears, ensure the DCNM Server IP address is the management network IP address of your server (not the switch). Enter username **admin** and password **nterone** and then click Login.



Step 30 Click on the link highlighted below to initiate DCNM discovery. The device discovery pane will list previous discovery task results, if any.



Step 31 A new browser window will be launched and the Admin-Data Sources home page of DCNM will be displayed.



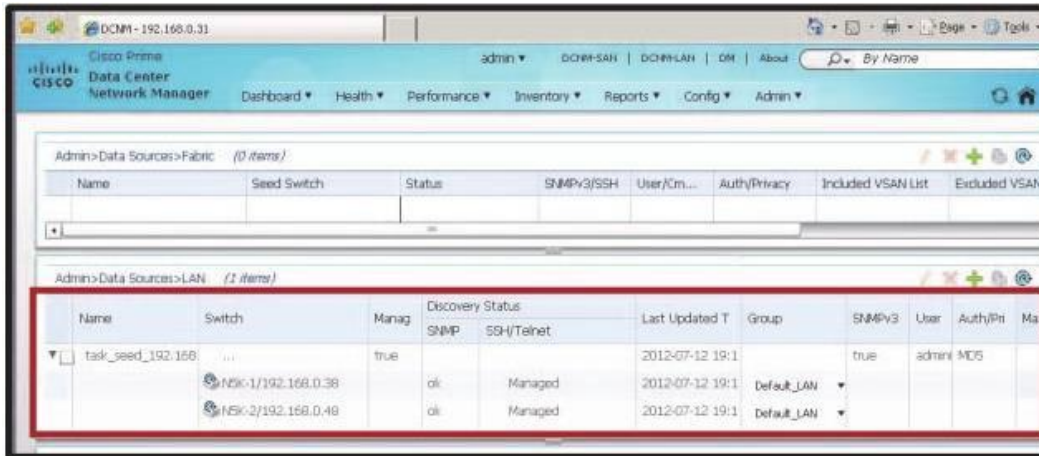
Step 32 Note the location of the following items on the Admin-Data Sources home page of Cisco Prime DCNM:

- The Admin menu in the upper right. Use this menu to return to the Admin-Data Sources page
- The Fabric, LAN and VMWare Admin>Data Sources panes, which will contain 0 items by default.
- On the right side of each Data Source pane are icons to add, remove, and refresh content within the pane.

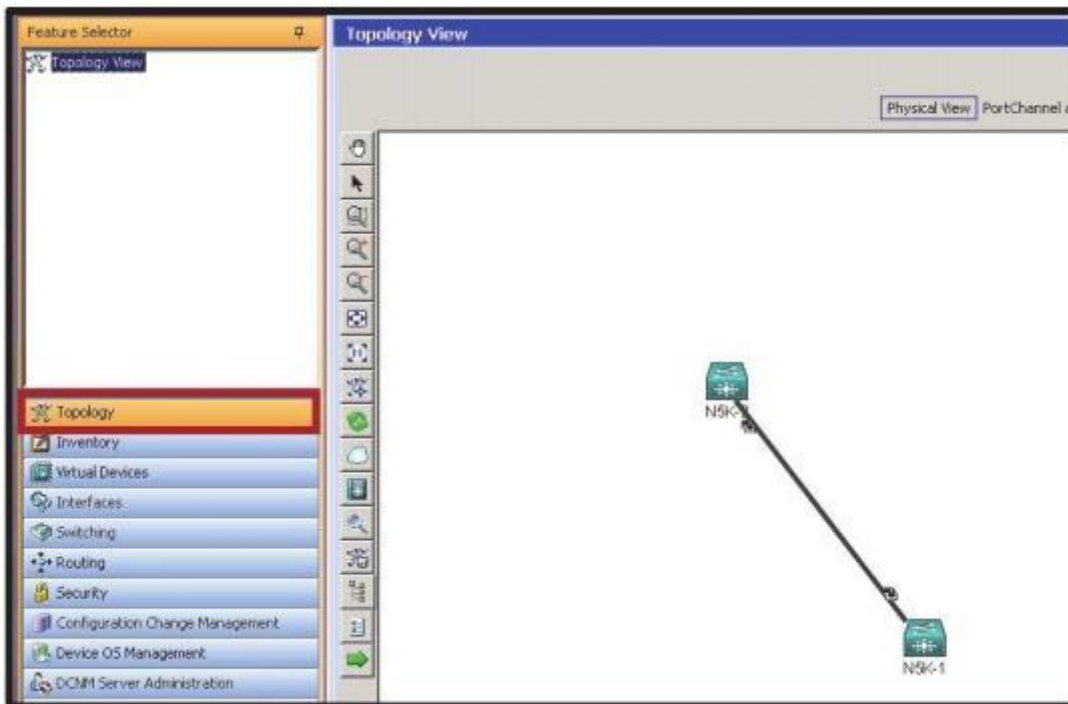
Step 33 Click the Add LAN icon (plus sign) in the Admin>Data Sources>LAN pane. Choose Discovery Type of Switch List and enter the management IP address of your pod switch and your peer pod switch in the list, separated by commas. Choose Detailed discovery. Enter username **admin** and password **Nterone179** and then click Add.



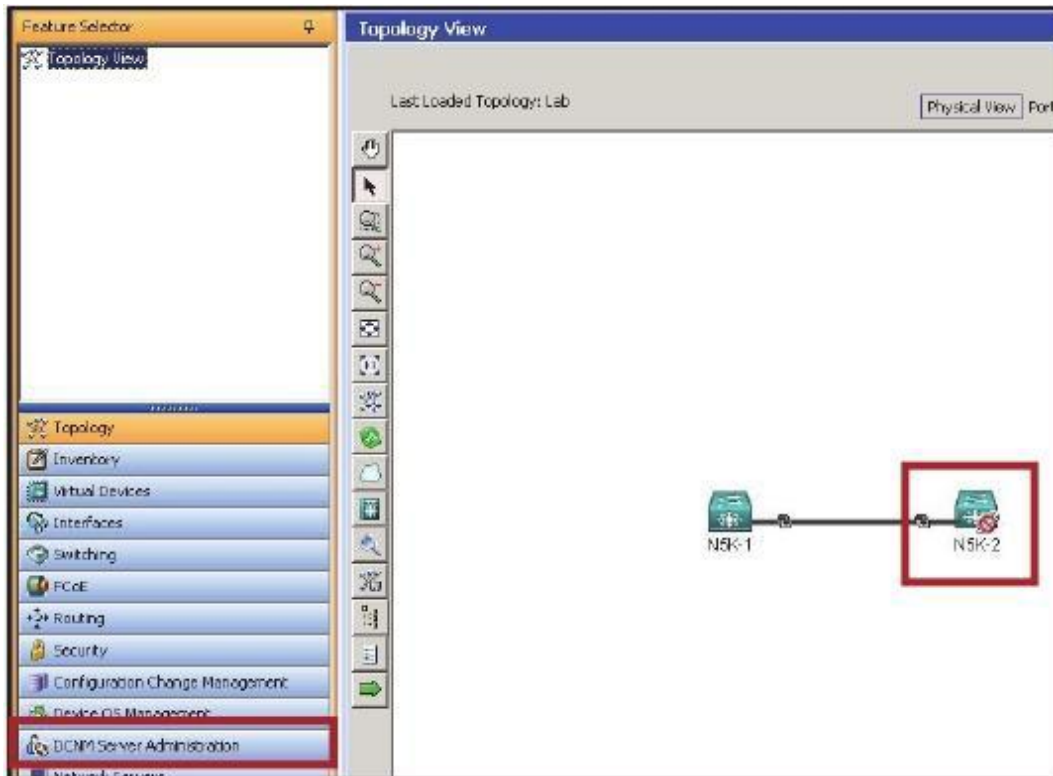
Step 34 When discovery has completed, expand the discovery task from the left column to view all of the devices discovered. Discovery was successful if the status of both devices displays as Managed.



Step 35 Minimize the browser window and return to the DCNM LAN window. Click Topology in the Feature Selector window and view the graphical topology discovered.

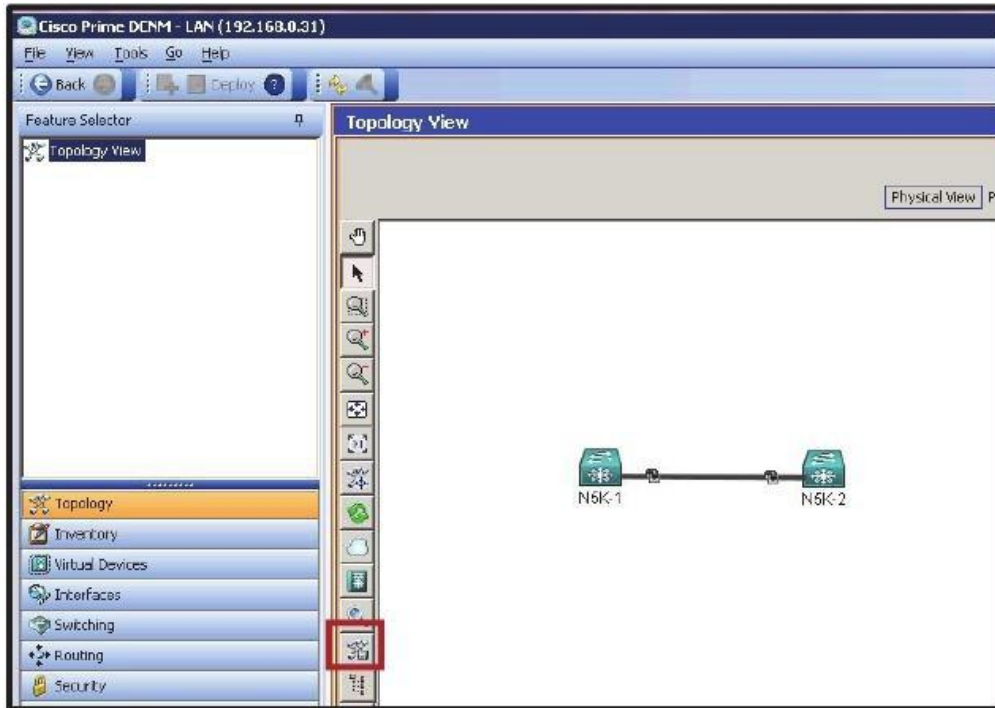


Step 36 If either of the Cisco Nexus switch icons appear as the N5K-2 icon does below, this indicates an unmanaged switch. If this appears, click DCNM Server Administration then choose Devices and Credentials in the feature selector.



Step 37 If the device is listed as unmanaged, highlight that device and re-enter the management credentials for the switch in the list above. Right-click the unmanaged device and choose Discover.

Step 38 Return to the Topology tab; examine the topology view of your pod. Rearrange the topology view to your liking. When you are happy with the layout, save the topology view by clicking Save Layout. Hover over the buttons to determine their function.



Step 39 Move some devices in the layout and then return to the saved layout by clicking Reload Layout.

Step 40 Use Export as JPG to save the visible area of your topology to the desktop as a JPG picture named Topology Diagram.jpg.

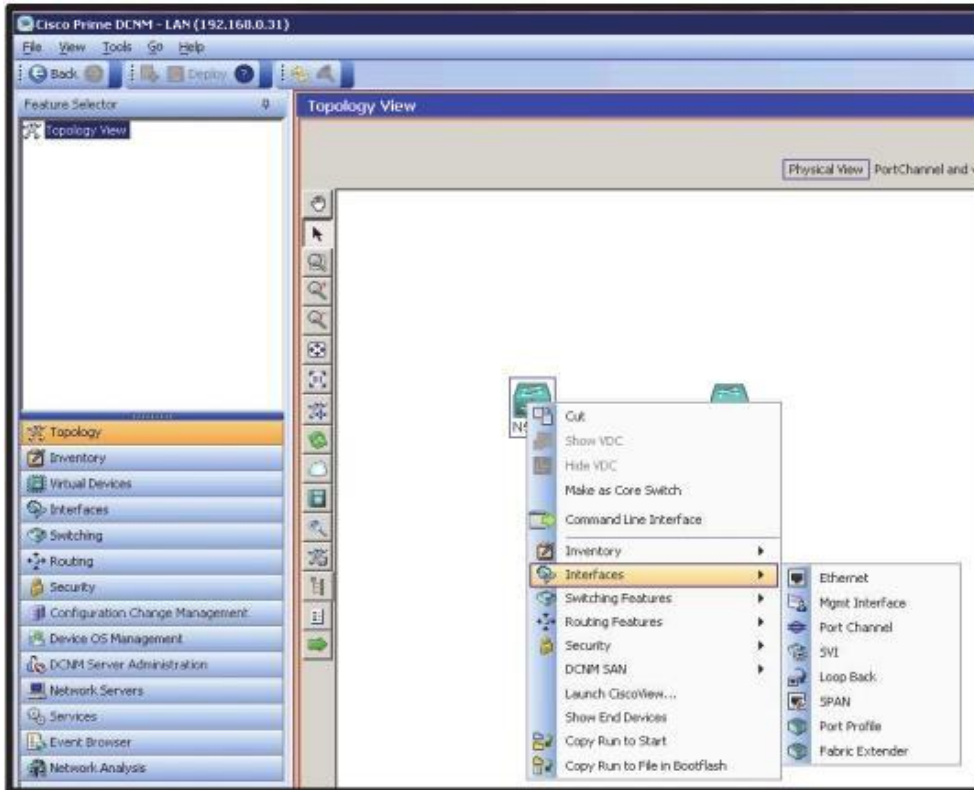
Step 41 Using Putty, connect to your assigned Cisco Nexus 5000 Series Switch.

Step 42 Determine the users that are remotely connected to your switch.

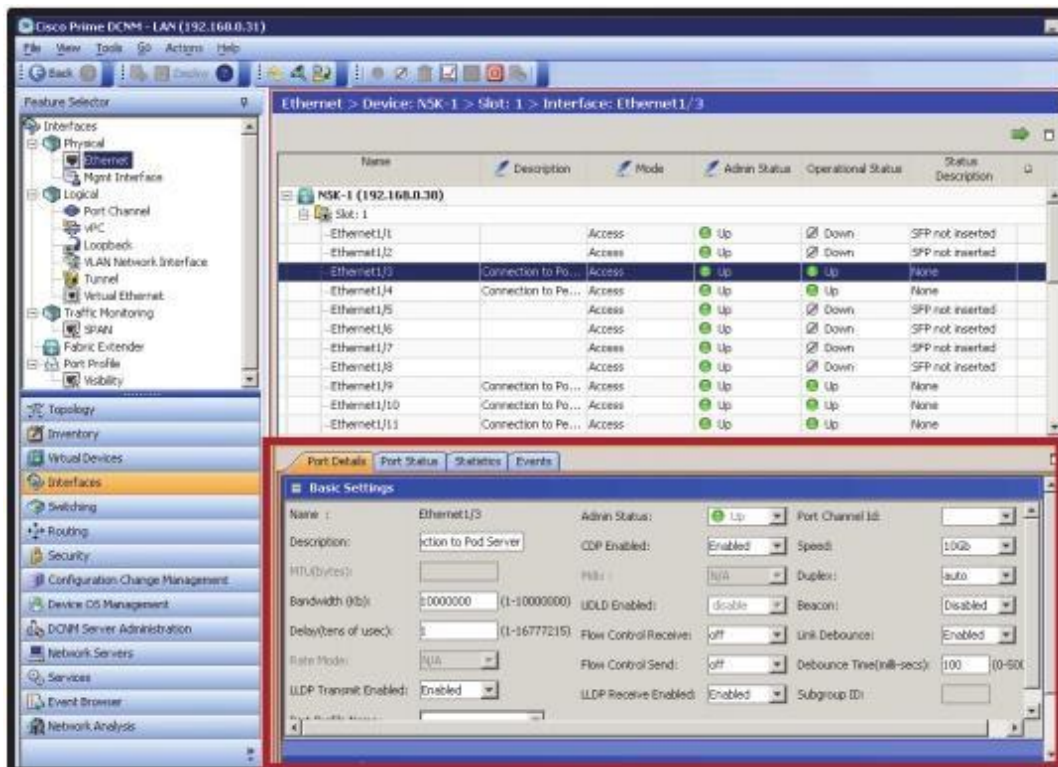
```
N5K-P# show users
NAME      LINE      TIME          IDLE          PID COMMENT
admin     ttyS0     Apr  2 07:33  00:02        5806
admin     pts/0     Apr  2 07:50  .             6177 (10.1.10.1P) session=ssh
admin     pts/1     Apr  2 08:06  .             7107 (10.1.10.1P) session=ssh *
```

Q5) Who has initiated the second SSH session?

Step 43 Return to the topology view. Right click the N5K-P icon to view the context menu. Choose Interfaces then Ethernet.



Step 44 Expand your switch and expand slot 1 in order to view all of the physical interfaces. Click interface Ethernet1/9 which is connected to your pod server. Examine the interface parameters.



Step 45 Click interface Ethernet1/7. Change the Admin Status to down from the drop-down menu.

Step 46 Choose Inventory under Feature Selector in the left column. Expand your switch.



Q6) How many cards are installed in the Chassis?

Q7) How many power supplies are installed in the Chassis?

Q8) How many fan units are installed in the Chassis?

Q9) Are components operating within specification?

Step 47 Choose Switching under Feature Selector in the left column.

Q10) What are the VLANs configured on the switch?

Q11) What is the mode of VLAN 1?

Step 48 Take some time to explore additional Cisco Prime DCNM-LAN features and options.

Activity Verification

You have completed this task when you attain these results:

- You have logged in to Cisco DCNM-LAN server.
- You have discovered your pod and peer pod switch using Cisco DCNM-LAN.
- Verified that the Cisco Prime DCNM LAN topology view displays both pod switches.
- Explored the usage of Cisco Prime DCNM LAN to manage the Ethernet fabric.