

Administration

This section contains context-sensitive Online Help content for the Web Client > Administration tab.

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DCNM Server

The DCNM Server menu includes the following submenus:

Starting, Restarting, and Stopping Services

Procedure

Step 1	Choose Administration > DCNM Server > Server Status.
	You see a table of services per server and the status of each as shown in the below image.
Step 2	In the Actions column, use the Start or Stop icons to start or stop services, or the Delete icon to clean up PM DB stale entries. You can see the latest status in the Status column.

What to do next

Using the Commands Table

The commands table contains links to commands that will launch new dialog boxes to provide information about the server status and server administrative utility scripts. These can be directly executed on the server CLI as well.

• **ifconfig**—click this link to view information about interface parameters, IP address and netmask used on the Cisco DCNM server.

- **appmgr status all**—click this link to view the DCNM server administrative utility script that checks the status of different services currently running.
- clock—click this link to view information about the server clock details such as time, zone information.

Note The commands section is applicable only for the OVA/ISO installations.

Viewing Log Information

You can view the logs for performance manager, SAN management server, SME server, web reports, web server, and web services. These processes have no corresponding GUI that allows you to view information about these log files. If you see errors, preserve these files for viewing.



Note Logs cannot be viewed from a remote server in a federation.

To view the logs from the Cisco DCNM Web UI, perform the following steps:

Procedure

Step 1	Choose Administration > DCNM Server > Logs.			
	You see a tree-based list of logs in the left column. Under the tree, there is a node for every server in the federation. The log files are under the corresponding server node.			
Step 2	Click a log file under each node of the tree to view it in the right column.			
Step 3	Double-click the tree node for each server to download a zip file containing those log files from that server			
Step 4	Click the Print icon on the upper right corner of the right column to print the logs page.			

Server Properties

This page allows you to set common parameters, which are populated as default values in the DCNM server. Specify the parameters in the following fields according to the corresponding description.

	Command or Action	Purpose
Step 1	Choose Administration > DCNM Server > Server Properties.	
Step 2	After finishing all the property fields, click Apply Changes to save the server settings.	

Modular Device Support

To support any new hardware which doesn't require many major changes, a patch can be delivered instead of waiting for the next DCNM release. **Modular Device Support** helps to deliver and apply the DCNM patch releases. An authorized DCNM administrator can apply the patch to the production setup. Patch releases are applicable for the following scenarios:

- Support any new hardware (Chassis or Line cards).
- Support latest NX-OS versions.
- Support critical fixes as patches.

Procedure

Step 1 Choose Administration > DCNM Server > Modular Device Support to view the patch details.

You see the **DCNM Servers** column on the left in the window and **Modular Device support information** window on the right.

Step 2 You can view all the DCNM servers under the **DCNM Servers** window. It includes the list of patch installed along with the version number, corresponding platforms supported, chassis supported, NX-OS version supported, PID supported, backup directory and the last patch deployment time in the **Modular Device** support information table.

What to do next

For more details about how to apply and rollback a patch, please go to http://www.cisco.com/go/dcnm for more information.

Managing Licenses

This section includes the following topics:

Viewing Licenses Using the Cisco DCNM Wizard

You can view the existing Cisco DCNM licenses by choosing Administration > DCNM Server > License.

Note

By default, the License Assignments tab appears.

License Assignments

The following table displays the License Assignments for every switch.

Field	Description
Group	Displays if it is a fabric or LAN group.

Field	Description
Switch Name	Displays the name of the switch.
WWN/Chassis ID	Displays the World Wide Name or Chassis ID.
Model	Displays the model of the device. For example, DS-C9124 or N5K-C5020P-BF.
License State	 Displays the license state of the switch that can be one of the following: Permanent Eval Unlicensed Not Applicable Expired Invalid
License Type	Displays if the license is a switch-based embedded license or a server-based license.
Eval Expiration	Displays the expiry date of the license. Note Text in the eval expiration field will be in Red for licenses, which expire in seven days.
Assign License	Select a row and click this option on the toolbar to assign the license.
Unassign License	Select a row and click this option on the toolbar to unassign the license.
Assign All	Click this option on the toolbar to refresh the table and assign the licenses for all the items in the table.
Unassign All	Click this option on the toolbar to refresh the table and unassign all the licenses.

Server License Files

The following table displays the Cisco DCNM server license fields.

Field	Description
Filename	Specifies the license file name.
Feature	Specifies the licensed feature.
PID	Specifies the product ID.
LAN (Free/Total)	Displays the number of free versus total licenses for LAN.

Field	Description	
Eval Expiration	Displays the expiry date of the license.	
	Note	Text in the eval expiration field is in Red for licenses that expires in seven days.

Automatic License Assignment

When the fabric is first discovered if the switch does not have a valid switch-based license, a license is automatically assigned to the fabric from the file license pool until no more licenses are left in the pool. Also, if you have an existing fabric and a new switch is added to the fabric, the new switch is assigned a license if one is available in the file license pool and if it does not already have a switch-based license.

Adding Cisco DCNM Licenses

To add Cisco DCNM licenses from the Cisco DCNM Web UI, perform the following steps:

Before you begin

You must have network administrator privileges to complete the following procedure.

Procedure

Step 1 Choose Administration > DCNM Server > License to start the license with
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Step 2 Choose the Server License Files tab.

The valid Cisco DCNM-LAN license files are displayed.

Ensure that the security agent is disabled when you load licenses.

- **Step 3** Download the license pack file that you received from Cisco into a directory on the local system.
- Step 4 Click Add License File and then select the license pack file that you saved on the local machine.

The file is uploaded to the server machine, which is saved into the server license directory, and then loaded on to the server.

Note Ensure that you do not edit the contents of the .lic file or the Cisco DCNM software ignores any features that are associated with that license file. The contents of the file are signed and must remain intact. When you accidentally copy, rename, or insert the license file multiple times, the duplicate files are ignored, but the original is counted.

Assigning Licenses

Before you begin

You must have network administrator privileges to complete the following procedure.

	Procedure
Step 1	Choose Administration > DCNM Server > License to start the license wizard.
Step 2	From the table, choose the switch that you want to assign the license to.
Step 3	Click Assign License.

Unassigning Licenses to a Switch

Before you begin

You must have network administrator privileges to complete the following procedure.

Procedure

Procedure

Step 1	Choose Administration > DCNM Server > License to start the license wizard.
	The licenses table appears.
Step 2	From the table, choose the switch that you want to unassign the license.
Step 3	Click Unassign License.

Native HA

By default, DCNM is bundled with an embedded database engine PostgreSQL. The native DCNM HA is achieved by two DCNMs running as Active / Warm Standby , with their embedded databases synchronized in real time. So once the active DCNM is down, the standby takes over with the same database data and resume the operation. The <i>standby host database down</i> scenario is documented after this procedure.
From the menu bar, choose Administration > DCNM Server > Native HA.
You see the Native HA window.
You can allow manual failover of DCNM to the standby host by clicking the Failover button, and then click OK .
• Alternatively, you can initiate this action from the Linux console.
1. SSH into the DCNM active host.
2. Enter " " /usr/share/heartbeat/hb_standby"

- Step 4 You can allow manual syncing database and disk files to standby host by clicking Force Sync, and then click OK.
- **Step 5** You can test or validate the HA setup by clicking **Test** and then click **OK**.

What to do next

Some HA troubleshooting scenarios are noted in this sub section.

The standby host database is down: Typically, the DCNM database (PostgreSQL) is up on the active and standby hosts. In DCNM 10.1 and earlier versions, the standby database can be down due to a database synchronization failure.

- Enter "ps -ef | grep post". You should see multiple postgres processes running. If not, it indicates that the database is down.
- Restore database data from a backup file that is created at the beginning of database synchronization. Change directory to "/usr/local/cisco/dcm/db"
- Check existence of file replication/ pgsql-standby-backup.tgz. If the file exists, restore database data files:

```
rm -rf data/*
tar -zxf replication/ pgsql-standby-backup.tgz data
/etc/init.d/postgresql-9.4 start
ps -ef | grep post
```

The active DCNM host will synchronize the two databases.

The TFTP server is not bound to the eth1 VIP address on the active host: The TFTP server should run on the active host (not on the standby host), and it should be bound to the eth1 VIP address. In some setups, the bind address is not the VIP address, as per the TFTP configuration file, and this could cause issues when switches try to use TFTP.

- Enter "grep bind /etc/xinetd.d/tftp" to check if the TFTP configuration file has the right bind address. If the displayed IP address is not the eth1 VIP address, then change the bind address to the VIP address. Repeat the procedure for the standby host. Update the bind address to the VIP address.
- Enter " " /etc/init.d/xinetd restart" on the active host to restart TFTP.

Note The TFTP server can be started or stopped with the "appmgr start/stop ha-apps" command.

Management Users

The Management Users menu includes the following submenus:

Remote AAA

Procedure

ep 1	From the menu bar, choose Administration > Management Users > Remote AAA Properties.
	The AAA properties configuration page appears.
ep 2	Use the radio button to select one of the following authentication modes:
	• Local—In this mode the authentication will authenticate with the local server.
	• Radius—In this mode the authentication will authenticate against the Radius servers specified.
	• TACACS+—In this mode the authentication will authenticate against the TACAS servers specified.
	• Switch—In this mode the authentication will authenticate against the switches specified.
	• LDAP—In this mode the authentication will authenticate against the LDAP server specified.
ep 3	Click Apply . Note You must restart the Cisco DCNM LAN services if you update the Remote AAA properties.
	Procedure
ep 1	Use the radio button and select Local as the authentication mode.
ep 2	Click Apply to confirm the authentication mode.

Radius

Local

Step 1	Use the radio button and select Radius as the authentication mode.
Step 2	Specify the Primary server details and click Test to test the server.
Step 3	(Optional) Specify the Secondary and Tertiary server details and click Test to test the server.
Step 4	Click Apply to confirm the authentication mode.

TACACS+

	Procedure	
Step 1	Use the radio button and select TACACS + as the authentication mode.	
Step 2	Specify the Primary server details and click Test to test the server.	
Step 3	(Optional) Specify the Secondary and Tertiary server details and click Test to test the server.	
Step 4	Click Apply to confirm the authentication mode.	

Switch

Procedure

Step 1	Use the radio button to select Switch as the authentication mode.
	DCNM also supports LAN switches with the IPv6 management interface.
Step 2 Step 3	Specify the Primary Switch name and click Apply to confirm the authentication mode.
Step 3	Click Apply to confirm the authentication mode.

LDAP

Step 1 Step 2 Step 3 Step 4	Use the radio button and select LDAP as the authentication mode. In the Host field, enter DNS address of the host. Click Test to test the AAA server. The Test AAA Server window pops out. Enter a valid Username and Password in the Test AAA Server window.
	A dialog box appears confirming the status of the AAA server test. If the test has failed, the LDAP Authentication Failed dialog box appears.
Step 5	In the Port field, enter a port number.
Step 6	(Optional) Select the SSL Enabled check box, if SSL is enabled on the AAA server.
Step 7	In the Base DN field, enter the base domain name.
Step 8	In the Filter field, specify the filter parameters.
Step 9	Choose an option to determine a role by either Attribute or Admin Group Map.
Step 10	In the Role Admin Group field, enter the name of the role.
Step 11	In the Map to DCNM Role field, enter the name of the role to be mapped.
Step 12	In the Access Map field, enter the Role Based Access Control (RBAC) group to be mapped.

Step 13 Click Apply Changes icon on the upper right corner to apply the LDAP configuration.

Managing Local Users

As an admin user, you can use Cisco DCNM Web UI to create a new user, assign the role and associate one or more groups or scope for the user.

This section contains the following:

Adding Local Users

To add a local user from the Cisco DCNM Web UI, perform the following steps:

Procedure

Step 1	Choose Administration > Management Users > Local.		
	The Lo	cal Users window is displayed.	
Step 2	Click A	dd User.	
	The Ad	d User window is displayed.	
Step 3	Enter the username in the Username field.		
	Note	The username is case-sensitive, but the username guest is a reserved name, which is not case-sensitive. The guest user can only view reports. The guest user cannot change the guest password, or access the Admin options in DCNM Web Client.	
Step 4	From the Role drop-down list, select a role for the user.		
Step 5	In the Password field, enter the password.		
Step 6	In the Confirm Password field, enter the password again.		
Step 7	Click Add to add the user to the database.		
Step 8	Repeat	Steps 2 to 7 to continue adding users.	

Deleting Local Users

Step 1	From the menu bar, choose Administration > Management Users > Local. You see the Local Users page.
Step 2	Select one or more users from the Local Users table and click the Delete User button.
Step 3	Click Yes on the warning window to delete the local user. Or click No to cancel deletion.

Editing a User

Procedure
From the menu bar, choose Administration > Management Users > Local.
Use the checkbox to select a user and click the Edit User icon.
In the Edit User window, the User Name and Role is mentioned by default. Specify the Password and Confirm Password.
Click Apply to save the changes.
To control the local users to access the specific groups from the Cisco DCNM Web UI, perform the following steps:
Procedure
Choose Administration > Management Users > Local.
The Local Users window is displayed.
Select one user from the Local Users table. Click User Access.
The User Access selection window is displayed.
Select the groups allowed to access for the user and click Apply .

Managing Clients

You can use Cisco DCNM to disconnect DCNM Client Servers.

Step 1	1 Choose Administration > Management Users > Clients.	
	A list of I	DCNM Servers are displayed.
Step 2	Use the c	heck box to select a DCNM server and click Disconnect Client to disconnect the DCNM server.
	Note	You cannot disconnect a current client session.

Performance Setup

The Performance Setup menu includes the following submenus:

Performance Setup LAN Collections

If you are managing your switches with the Performance Manager, you must set up an initial set of flows and collections on the switch. You can use Cisco DCNM to add and remove performance collections. License the switch and kept it in the **Managed Continuously** state before creating a collection for the switch.

To add a collection, follow these steps:

Procedure

Step 1	Choose Administration > Performance Setup > LAN Collections.
Step 2	For all the licensed LAN switches, use the check boxes to enable performance data collection for Trunks , Access , Errors & Discards , and Temperature Sensor .
Step 3	Use the check boxes to select the types of LAN switches for which you want to collect performance data.
Step 4	Click Apply to save the configuration.
Step 5	In the confirmation dialog box, click Yes to restart the performance collector.

Event Setup

The Event Setup menu includes the following submenus:

Viewing Events Registration

To enable **Send Syslog**, **Send Traps** and **Delayed Traps** you must configure the following in the DCNM Web client:

- Enabling Send Syslog: Choose Physical Attributes > Events > Syslog > Servers. Click the Create Row icon, provide the required details, and click Create.
- Enabling Send Traps: Choose Physical Attributes > Events > SNMP Traps > Destination. Click the Create Row icon, provide the required details, and click Create.
- Enabling Delayed Traps: Choose Physical Attributes > Events > SNMP Traps > Delayed Traps. In the Feature Enable column, use the checkboxes to enable delayed traps for the switch and specify the delay in minutes.

Procedure

Step 1 Choose Administration > Event Setup > Registration.

The SNMP and Syslog receivers along with the statistics information are displayed.

Step 2 Select **Enable Syslog Receiver** checkbox and click **Apply**, to enable the syslog receiver if it is disabled in the server property.

To configure the Event Registration/Syslog properties, select Administration > DCNM Server > Server Properties and follow the on-screen instructions.

Step 3 Select **Copy Syslog Messages to DB** and click **Apply** to copy the syslog messages to the database.

If this option is not selected, the events will not be displayed in the events page of the Web client.

The columns in the second table display the following:

- Switches sending traps
- Switches sending syslog
- Switches sending syslog accounting
- · Switches sending delayed traps

Notification Forwarding

You can use Cisco DCNM Web UI to add and remove notification forwarding for system messages.

This section contains the following:

Adding Notification Forwarding

Cisco DCNM Web UI forwards fabric events through e-mail or SNMPv1 traps.

To add and remove notification forwarding for system messages from the Cisco DCNM Web UI, perform the following steps:



Note

Test forwarding works only for the licensed fabrics.

Step 1	Choose Administration > Event Setup > Forwarding.
	The events forwarding scope, the recipient email address, severity of the event and type of the event is displayed. The description Regex field is applicable only when the forwarding source is selected as Syslog while adding the events forwarder.
Step 2	Check the Enable checkbox to enable events forwarding.
Step 3	Specify the SMTP Server details and the From e-mail address.
Step 4	Click Apply to save the configuration, or in the Apply and Test icon, use the drop-down to select the fabric.
	Click Apply and Test to save and test the configuration.

Step 5 In the **Event Count Filter**, add a filter for the event count to the event forwarder. The forwarding stops forwarding an event if the event count exceeds the limit as specified in the event count filter. In this field, you can specify a count limit. Before an event can be forwarded, the Cisco DCNM checks if its occurrence exceeds the count limit. If it does, the event will not be forwarded. Step 6 Select the **Snooze** checkbox and specify the **Start** date and time and the **End** date and time. Click **Apply** to save the configuration. Step 7 Under the **Event Forwarder Rules** table, click the + icon to add an event forwarder rule. You see the Add Event Forwarder Rule dialog box. Step 8 In the Forwarding Method, choose either E-Mail or Trap. If you choose Trap, a Port field is added to the dialog box. Step 9 If you choose the E-mail forwarding method, enter the IP address in the Email Address field. If you choose the Trap method, enter the trap receiver IP address in the Address field and specify the port number. Step 10 For Forwarding Scope, choose the Fabric/LAN or Port Groups for notification. Step 11 In the **Source** field, select **DCNM** or **Syslog**. If you select **DCNM**, then: a) From the **Type** drop-down list, choose an event type. b) Check the Storage Ports Only check box to select only the storage ports. c) From the **Minimum Severity** drop-down list, select the severity level of the messages to receive. d) Click Add to add the notification. If you select **Syslog**, then: a) In the Facility list, select the syslog facility. b) Specify the syslog **Type**. c) In the **Description Regex** field, specify a description that matches with the event description. d) From the **Minimum Severity** drop-down list, select the severity level of the messages to receive. e) Click Add to add the notification. Note The Minimum Severity option is available only if the Event Type is set to All. The traps that are sent by Cisco DCNM correspond to the severity type followed by a text description: trap type(s) = 40990 (emergency) 40991 (alert) 40992 (critical) 40993 (error) 40994 (warning) 40995 (notice) 40996 (info) 40997 (debug)

Removing Notification Forwarding

You can remove notification forwarding.

textDescriptionOid = 1, 3, 6, 1, 4, 1, 9, 9, 40999, 1, 1, 3, 0

Procedure

Step 1 Choose Administration > Event Setup > Forwarding.

Step 2 Select the check box in front of the notification that you want to remove and click **Delete**.

Event Suppression

Cisco DCNM allows you to suppress the specified events that are based on the user-specified suppressor rules. Such events will not be displayed on the Cisco DCNM Web UI. The events will neither be persisted to DCNM database, nor forwarded via email or SNMP trap.

You can view, add, modify, and delete suppressor rules from the table. You can create a suppressor rule from the existing event table. Select a given event as the template, and invoke the rule dialog window. Event details are automatically ported from the selected event in the event table to the input fields of the rule creation dialog window.

This section includes the following:

Add Event Suppression Rules

To add rules to the Event Suppression from the Cisco DCNM Web UI, perform the following steps:

Step 1	Choose Administration > Event Setup > Suppression.		
	The Suppression window is displayed.		
Step 2	Click the Add icon above the Event Suppressors table.		
	The Add Event Suppressor Rule window is displayed.		
Step 3 Step 4	In the Add Event Suppressor Rule window, specify the Name for the rule. Select the required Scope for the rule that is based on the event source.		
	In the Scope drop-down list, the LAN groups and the port groups are listed separately. You can choose LAN, Port Groups or Any . For LAN, select the scope of the event at the Fabric or Group or Switch level. You can only select groups for Port Group scope. If use selects Any as the scope, the suppressor rule is applied globally.		
Step 5	Enter the Facility name or choose from the LAN Switch Event Facility List.		
	If you do not specify a facility, wildcard is applied.		
Step 6	From the drop-down list, select the Event Type .		
	If you do not specify the event type, wildcard is applied.		
Step 7	In the Description Matching field, specify a matching string or regular expression.		
	The rule matching engine uses regular expression that is supported by Java Pattern class to find a match against an event description text.		

Step 8 Check the Active Between box and select a valid time range during which the event is suppressed.

By default, the time range is not enabled, i.e., the rule is always active.

- **Note** In general, you must not suppress accounting events. Suppressor rule for Accounting events can be created only for certain rare situations where Accounting events are generated by actions of DCNM or switch software. For example, lots of '*sync-snmp-password*' AAA syslog events are automatically generated during the password synchronization between DCNM and managed switches. To suppress Accounting events, navigate to the **Suppressor table** and invoke the **Add Event Suppressor Rule** dialog window.
- **Note** Choose **Monitor** > **Switch** > **Events** to create a suppressor rule for a known event. There is no such shortcut to create suppressor rules for Accounting events.

Delete Event Suppression Rule

To delete event suppressor rules, do the following tasks:

Procedure

Step 1	From the menu bar, select Administration > Event Setup > Suppression.
Step 2	Select the rule from the list and click Delete icon.
Step 3	Click Yes to confirm.

Modify Event Suppression Rule

To modify the event suppressor rules, do the following tasks:

Procedure

Step 1	Choose Administration > Event Setup > Suppression.	
Step 2	2 Select the rule from the list and click Edit .	
	You can edit Facility, Type, Description Matching string, and Valid time range.	
Step 3	Click Apply to save the changes,	

Credentials Management

The Credential Management menu includes the following submenus:

LAN Credentials

While changing the device configuration, Cisco DCNM uses the device credentials provided by you. However, if the LAN Switch credentials are not provided, Cisco DCNM prompts you to open the Administration > Credentials Management > LAN Credentials page to configure LAN credentials.

Cisco DCNM uses two sets of credentials to connect to the LAN devices:

- **Discovery Credentials**—Cisco DCNM uses these credentials during discovery and periodic polling of the devices.
- Configuration Change Credentials—Cisco DCNM uses these credentials when user tries to use the features that change the device configuration.

LAN Credentials Management allows you to specify configuration change credentials. Before changing any LAN switch configuration, you must furnish *Configuration Change* SSH credentials for the switch. If you do not provide the credentials, the configuration change action will be rejected.

These features get the device write credentials from LAN Credentials feature.

- Upgrade (ISSU)
- Maintenance Mode (GIR)
- Patch (SMU)
- Template Deployment
- POAP-Write erase reload, Rollback
- Interface Creation/Deletion/Configuration
- VLAN Creation/Deletion/Configuration
- VPC Wizard

You must specify the configuration change credentials irrespective of whether the devices were discovered initially or not. This is a one-time operation. Once the credentials are set, that will be used for any configuration change operation.

Default Credentials

Default credentials is used to connect all the devices that the user has access to. You can override the default credentials by specifying credentials for each of the devices in the Switch Table below.

Cisco DCNM tries to use individual switch credentials in the Switch Table, to begin with. If the credentials (username/password) columns are empty in the Switch Table, the default credentials will be used.

Switch Table

Switch table lists all the LAN switches that user has access. You can specify the switch credentials individually, that will override the default credentials. In most cases, you need to provide only the default credentials.

You can perform the following operations on this screen.

- Edit Credentials, on page 18
- Validate Credentials, on page 18

• Clear Switch Credentials, on page 18

The LAN Credentials for the DCNM User table has the following fields.

Field	Description
Switch	Displays the LAN switch name.
IP Address	Specifies the IP Address of the switch.
User Name	Specifies the username of the switch DCNM user.
Password	Displays the encrypted form of the SSH password.
Group	Displays the group to which the switch belongs.

Edit Credentials

Perform the following task to edit the credentials.

- From the Cisco DCNM home page, choose Administration > Credentials Management > LAN Credentials, check the Switch check box for which you need to edit the credentials.
- 2. Click Edit icon.
- 3. Specify User Name and Password for the switch.

Validate Credentials

Perform the following task to validate the credentials.

- From the Administration > Credentials Management > LAN Credentials, check the Switch check box for which you need to validate the credentials.
- 2. Click Validate.

A confirmation message appears, stating if the operation was successful or a failure.

Clear Switch Credentials

Perform the following task to clear the switch credentials.

- 1. From the Administration > Credentials Management > LAN Credentials, check the Switch check box for which you need to clear the credentials.
- 2. Click Clear.
- 3. Click Yes to clear the switch credentials from the DCNM server.