C H A P T E R 4

Creating VDCs

This chapter describes how to create virtual device contexts (VDCs) on Cisco NX-OS devices.

This chapter includes the following sections:

Information About Creating VDCs

In Cisco NX-OS, only a user with the network-admin role can create VDCs.

Beginning with the Cisco NX-OS Release 5.2(1), you can run Fibre Channel over Ethernet (FCoE) on the Cisco Nexus 7000 Series devices. You must create a storage VDC to run FCoE. The storage VDC cannot be the default VDC. You can have one storage VDC on the device. See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on configuring FCoE.

Beginning with Cisco NX-OS Release 6.2(2), Supervisor 2e module supports the new Cisco Nexus 7718 switch and the Cisco Nexus 7710 switch. These switches supports F2e line cards only. For more information, see the Cisco Nexus 7000 Series Hardware Installation and Reference Guide.

This section includes the following topics:

Storage VDCs

Beginning with Cisco NX-OS Release 5.2(1), you can run FCoE on the Cisco Nexus 7000 Series devices. You must create a separate storage VDC when you run FCoE on the device. Only one of the VDCs can be a storage VDC, and the default VDC cannot be configured as a storage VDC.

You allocate specified FCoE VLANs to the storage VDC as well as specified interfaces. See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on configuring FCoE.

You can configure shared interfaces that carry both Ethernet and Fibre Channel traffic. In this specific case, the same interface belongs to more than one VDC. The shared interface is allocated to both an Ethernet and a storage VDC.

High-Availability Policies

The high-availability (HA) policies for a VDC defines the action that the Cisco NX-OS software takes when an unrecoverable VDC fault occurs.

You can specify the HA policies for single supervisor module or dual supervisor module configurations when you create the VDC. The HA policy options are as follows:

- Single supervisor module configuration:
  - Bringdown—Puts the VDC in the failed state.
  - Reload— Reloads the supervisor module.
  - Restart—Takes down the VDC processes and interfaces and restarts them using the startup configuration.
- Dual supervisor module configuration:
  - Bringdown—Puts the VDC in the failed state.
  - Restart—Takes down the VDC processes and interfaces and restarts them using the startup configuration.
  - Switchover— Initiates a supervisor module switchover.

The default HA policies for a nondefault VDC that you create is restart for a single supervisor module configuration and switchover for a dual supervisor module configuration. The default HA policy for the default VDC is reload for a single supervisor module configuration and switchover for a dual supervisor module configuration.

For information about changing the HA policies after you create a VDC, see Chapter 5, "Managing VDCs."

Allocating Interfaces

Note See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on allocating interfaces for storage VDCs and FCoE.

The only physical resources that you can allocate to a VDC are the physical interfaces. You can assign an interface to only one VDC, except in the specific case of shared interfaces that carry both Fibre Channel and Ethernet traffic. You allocate a shared interface to both an Ethernet VDC and to the storage VDC. When you move an interface from one VDC to another VDC, the interface loses its configuration.

When you first create a VDC, you can specifically allocate interfaces to it. All interfaces initially reside in the default VDC (VDC 1). After you allocate the interfaces to a VDC, you can only view and configure them from that specific VDC. You can also remove interfaces from a VDC by moving them back to the default VDC.

⚠

Caution   When you move an interface, all configuration on the interface is lost and the interfaces are in the down state.

✎

Note   Beginning with Cisco NX-OS Release 5.2(1) for Nexus 7000 Series devices, all members of a port group are automatically allocated to the VDC when you allocate an interface.

You must be aware of the hardware architecture of your platform when allocating interfaces to a VDC. You can allocate the interfaces on your physical device in any combination. See Table 4-1 and Table 4-2 for the port numbering for the port groups.

Beginning with Cisco NX-OS Release 6.1, the following M2 Series modules are supported on Cisco Nexus 7000 Series platforms:

- 24-port 10G (N7K-M224XP-23L)
- 6-port 40G (N7K-M206FQ-23L)
- 2-port 100G (N7K-M202-CF-22L)

✎

Note   There is no port group restriction on M2 Series modules. Any port in M2 Series modules can be placed in any VDC.

Table 4-1   Port Numbers for Port Groups on the Cisco Nexus 7000 Series 32-Port, 10-Gbps Ethernet Module N7K-M132XP-12

Port Group	Port Numbers
Group 1	1, 3, 5, 7
Group 2	2, 4, 6, 8
Group 3	9, 11, 13, 15
Group 4	10, 12, 14, 16
Group 5	17, 19, 21, 23
Group 6	18, 20, 22, 24
Group 7	25, 27, 29, 31
Group 8	26, 28, 30, 32

You must allocate the interfaces on your physical device in the specified combination on the Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module N7K-F132XP-15. This module has 16 port groups that consist of 2 ports each. You must assign the specified port pairs in the same VDC. Table 4-2 shows the port numbering for the port groups.

Table 4-2   *Port Numbers for Port Groups on the Cisco Nexus 7000 Series 32-Port, 10-Gbps Ethernet Module N7K-F132XP-15*

Port Group	Port Number
Group 1	1 and 2
Group 2	3 and 4
Group 3	5 and 6
Group 4	7 and 8
Group 5	9 and 10
Group 6	11 and 12
Group 7	13 and 14
Group 8	15 and 16
Group 9	17 and 18
Group 10	19 and 20
Group 11	21 and 22
Group 12	23 and 24
Group 13	25 and 26
Group 14	27 and 28
Group 15	29 and 30
Group 16	31 and 32

You must allocate the interfaces on your physical device in the specified combination on the Cisco Nexus 7000 Series 48-port, 10-Gbps Ethernet modules N7K-F248XP-25[E] and N7K-F248XT-25[E]. These modules have 12 port groups that consist of 4 ports each. You must assign all four ports in a port group to the same VDC. Table 4-3 shows the port numbering for the port groups.

Table 4-3   *Port Numbers for Port Groups on the Cisco Nexus 7000 Series 10-Gbps Ethernet Module N7K-F248XP-25[E] and N7K -F248XT-25[E] and Cisco Nexus 7700 Series 48-Port 1 and 10-Gbps Ethernet Module N77-F248XP-23E*

Port Group	Port Numbers
Group 1	1, 2, 3, 4
Group 2	5, 6, 7, 8
Group 3	9, 10, 11, 12
Group 4	13, 14, 15, 16
Group 5	17, 18, 19, 20
Group 6	21, 22, 23, 24
Group 7	25, 26, 27, 28

Table 4-3   Port Numbers for Port Groups on the Cisco Nexus 7000 Series 10-Gbps Ethernet Module N7K-F248XP-25[E] and N7K -F248XT-25[E] and Cisco Nexus 7700 Series 48-Port 1 and 10-Gbps Ethernet Module N77-F248XP-23E (continued)

Port Group	Port Numbers
Group 8	29, 30, 31, 32
Group 9	33, 34, 35, 36
Group 10	37, 38, 39, 40
Group 11	41, 42, 43, 44
Group 12	45, 46, 47, 48

For more information about port groups on the Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet modules, see the *Cisco Nexus 7000 Series Hardware Installation and Reference Guide*. For information about changing the interface allocation after you create a VDC, see

VDC Management Connections

The Cisco NX-OS software provides a virtual management (mgmt 0) interface for out-of-band management of each VDC. You can configure this interface with a separate IP address that is accessed through the physical mgmt 0 interface. You also use one of the Ethernet interfaces on the physical device for in-band management. For more information about management connections, see the .

Initializing a New VDC

A new VDC is similar to a new physical device. You must set the VDC admin user account password and perform the basic configuration to establish connectivity to the VDC.

Licensing Requirements for VDCs

Without a license, the following restrictions will prevent you from creating additional VDCs:

- Only the default VDC can exist and no other VDC can be created.

- On all supported Supervisor modules, if you enable the default VDC as an admin VDC, you can only enable one nondefault VDC.

The following table shows the licensing requirements for VDCs:

Table 4-4   Licensing Requirements for VDC

Product	Supervisor Modules	No. of VDCs	License Requirement
Cisco NX-OS	Supervisor 1 modules	3 nondefault VDCs and 1 default VDC or four nondefault VDCs and 1 admin VDC	You can use the Advanced Services Package License and the VDC License interchangeably on Supervisor 1 modules. If VDC1 is the default VDC, you can create up to three nondefault VDCs on Supervisor 1 modules. If VDC1 is the admin VDC, you can create up to four nondefault VDCs.
	Supervisor 2 modules	4 nondefault VDCs and 1 admin VDC	You can use the Advanced Services Package License and the VDC License interchangeably on Supervisor 2 modules. You can create up to four nondefault VDCs and 1 admin VDC on Supervisor 2 modules. If VDC1 is the default VDC, you can create three nondefault VDCs.
	Supervisor 2e modules	8 nondefault VDCs and 1 admin VDC	You can use up to two VDC Licenses on Supervisor 2e modules. Each count of VDC License covers four VDCs. You can create up to eight nondefault VDCs and one admin VDC on Supervisor 2e modules. If VDC1 is the default VDC, you can create seven nondefault VDCs. For a complete explanation of the Cisco NX-OS licensing scheme and how to obtain and apply licenses, see the *Cisco Nexus 7000 Verified Scalability Guide* and *Cisco NX-OS Licensing Guide*.

Prerequisites for Creating VDCs

VDC creation has the following prerequisites:

- You are logged on to the default or admin VDC with a username that has the network-admin user role.

- The Advance Services Package License and/or the VDC license is installed for the additional VDCs.

- You have a name for the VDC.

- You have resources available on the physical device to allocate to the VDCs.

Guidelines and Limitations for VDCs

VDCs have the following configuration guidelines and limitations:

- Standard VDCs cannot share interfaces, VLANs, Virtual Routing and Forwarding (VRF) tables, or port channels.

- Only users with the network-admin role can create VDCs.

- The following guidelines and limitations apply to the **switchto vdc** command:

  – Only users with the network-admin or network-operator role can use the **switchto vdc** command. No other users are permitted to use it.

  – No user can grant permission to another role to use the **switchto vdc** command.

     – After a network-admin uses the **switchto vdc** command, this user becomes a vdc-admin for the new VDC. Similarly, after a network-operator uses the **switchto vdc** command, this user becomes a vdc-operator for the new VDC. Any other roles associated with the user are not valid after the **switchto vdc** command is entered.

     – After a network-admin or network-operator uses the **switchto vdc** command, this user cannot use this command to switch to another VDC. The only option is to use the **switchback** command to return to the original VDC.

- Cisco NX-OS Release 6.2.2 introduced a separate F2e Series VDC type which must be entered to enable F2e Series support. In Cisco NX-OS Release 6.1, the F2 VDC type supports both F2 and F2e Series modules.

- F2 Series modules can exist with F2e Series modules in the same VDC. F2 Series modules cannot exist with any other module type in the VDC. This restriction applies to both LAN and storage VDCs. See Table 5-4 and Table 5-5 of Chapter 5, "Managing VDCs" for more detailed information on module type restrictions and conditions.

- F2 and F2e Series modules support FCoE only with Supervisor 2 and Supervisor 2e modules.

- F2 and F3 Series modules in a specific VDC do not support OTV.

- F2 and F3 Series modules in a specific VDC do not support 64,000 unicast entries if the VPN routing and forwarding (VRF) instance is spread across the F2 and F3 Series modules.

Default Settings for Creating VDCs

Table 4-5 lists the default settings for VDC parameters.

Table 4-5   Default VDC Parameter Settings

Parameters	Default
Default VDC HA policies	**reload** for single supervisor module configurations
	switchover for dual supervisor module configurations
Nondefault VDC HA policies	**restart** for single supervisor module configurations
	switchover for dual supervisor module configurations
VDC ID	First available

Process for Creating VDCs

To create VDCs, follow these steps:

Step 1 If necessary, create a VDC resource template (see Chapter 3, "Configuring VDC Resource Templates").

Step 2 Create the VDC and allocate interfaces (see the "Creating VDCs" section on page 4-8).

Step 3 Initialize the VDC (see the "Initializing a VDC" section on page 4-12).

Note   Allocating interfaces to a VDC is optional. You can allocate the interfaces after you have verified the VDC configuration. For information about allocating interfaces, see the "Allocating Interfaces to an Ethernet VDC" section on page 5-9.

Note   When creating an FCoE type VDC, you must enter the **type storage** command at the time the nondefault VDC is being created, because it cannot be specified later. You must also allocate specified VLANs as FCoE VLANs that will run only in the storage VDC. For details about implementing FCoE and allocating interfaces, see the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500.*

Note   You can enable FCoE on F1 Series modules with Supervisor 1 modules. You can also enable FCoE on F1 Series modules and on the F248XP-25[E] Series with Supervisor 2 and Supervisor 2e modules.

Note   You cannot enable FCoE on F2 and F2e Series modules with Supervisor 1 modules.

Creating VDCs

You must create a VDC before you can use it.

Note   VDC creation can take a few minutes to complete. Use the **show vdc** command to verify the completion of the create request.

BEFORE YOU BEGIN

Log in to the default or admin VDC as a network administrator.

Choose a VDC resource template if you want to use resource limits other than those limits provided in the default VDC resource template. If there is no resource template available with the limits you want to use, see Chapter 3, "Configuring VDC Resource Templates."

Note   When creating an FCoE type VDC, you must enter the **type storage** command at the time the nondefault VDC is being created, because it cannot be specified later. For information on allocating FCoE VLANs and interfaces to the storage VDC, see the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500*.

SUMMARY STEPS

1. **config t**

2. **vdc** {**switch** | *vdc-name*} [**ha-policy** {**dual-sup** {**bringdown** | **restart** | **switchover**} [**single-sup** {**bringdown** | **reload** | **restart**}] [**id** *vdc-number*] [**template** *template-name*] [**template** *template-name*] [**type storage**]

3. (Optional) [**no**] **allocate interface ethernet** *slot*/*port*

[**no**] **allocate interface ethernet** *slot*/*port - last-port*

[**no**] **allocate interface ethernet** *slot*/*port*, **ethernet** *slot*/*port*,...

4. (Optional) **show vdc membership**

5. (Optional) **show vdc shared membership**

6. **exit**

7. (Optional) **show vdc**

8. (Optional) **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	`config t`
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters global configuration mode.

	Command	Purpose

Step 2	**vdc** {**switch** | *vdc-name*} [**ha-policy** {**dual-sup** {**bringdown** | **restart** | **switchover**} | **single-sup** {**bringdown** | **reload** | **restart**}] [**id** *vdc-number*] [**template** *template-name*] [**type storage**]
	
	Example:
	switch(config)# vdc admin-vdc
	switch(config-vdc)#
		Creates a VDC and enters the VDC configuration mode. The keywords and arguments are as follows:
		
		• **switch**—Specifies the default VDC. VDC number 1 is reserved for the default VDC.
		
		• *vdc-name*—Specifies a nondefault VDC. The VDC name can be a maximum of 32 characters. The VDC name cannot begin with a number. Nondefault VDC numbers are from 2 to 9. The next available number is assigned when creating a nondefault VDC.
		
		• **ha-policy dual-sup**:
		  – **bringdown**—Puts the VDC in the failed state.
		  – **restart**—Takes down the VDC processes and interfaces and restarts them using the startup configuration.
		  – **switchover**—(Default) Initiates a supervisor module switchover.
		
		• **ha-policy single-sup**:
		  – **bringdown**—Puts the VDC in the failed state.
		  – **reload**—Reloads the supervisor module.
		  – **restart**—(Default) Takes down the VDC processes and interfaces and restarts them using the startup configuration.
		
		• **id**—Specifies the VDC ID.
		
		• **template**—Specifies the VDC resource template. The default resource template is used if you do not specify one.
		
		• **type storage**—Specifies a nondefault VDC as a storage VDC.
		
		✎
		Note You must enter the **type storage** keyword when you create the nondefault VDC because you cannot specify this keyword after the nondefault VDC has been created. See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on configuring FCoE.

	Command	**Purpose**
Step 3	[**no**] **allocate interface ethernet** *slot*/*port* **Example:** switch(config-vdc)# allocate interface ethernet 2/1 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes **Example:** switch(config-vdc)# allocate interface ethernet 2/2	(Optional) Allocates one interface to the VDC. The *slot*/*port* argument specifies the interface that you are allocating. Use the **no** option of the command to remove an interface from the VDC and place it in an unallocated pool.
	[**no**] **allocate interface ethernet** *slot*/*port* **-** *last-port* **Example:** switch(config-vdc)# allocate interface ethernet 2/1 - 4 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes	(Optional) Allocates a range of interfaces on the same module to the VDC. The *slot* argument specifies the slot, the port argument specifies the first interface in the range, and the *last-port* argument specifies the last interface in the range that you are allocating.
	[**no**] **allocate interface ethernet** *slot*/*port*, **ethernet** *slot*/*port*, ... **Example:** switch(config-vdc)# allocate interface ethernet 2/1, ethernet 2/3, ethernet 2/5 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes	(Optional) Allocates a list of interfaces to the VDC. The *slot*/*port* argument specifies the interface that you are allocating. You can specify several interfaces using commas as delimiters.
Step 4	**show vdc membership** **Example:** switch(config-vdc) show vdc membership	(Optional) Displays the interface membership for the VDCs.
Step 5	**show vdc shared membership** **Example:** switch(config-vdc) show vdc shared membership	(Optional) Displays the shared interface membership for the VDCs.
Step 6	**exit** **Example:** switch(config-vdc)# exit switch(config)#	Exits the VDC configuration mode.
Step 7	**show vdc** **Example:** switch(config)# show vdc	(Optional) Displays the VDC status information.

	Command	Purpose

Step 8	`copy running-config startup-config`
	
	Example:
	`switch(config)# copy running-config startup-config`
		(Optional) Copies the running configuration to the startup configuration.

		Note After you create a VDC, you must copy the default VDC running configuration to the startup configuration so that a VDC user can copy the new VDC running configuration to the startup configuration.

Initializing a VDC

A newly created VDC is much like a new physical device. To access a VDC, you must first initialize it. The initialization process includes setting the VDC admin user account password and optionally running the setup script (see the "Configuration Example for Ethernet VDC Creation and Initialization" section on page 4-13). The setup script helps you to perform basic configuration tasks such as creating more user accounts and configuring the management interface.

Note   The VDC admin user account in the nondefault VDC is separate from the network admin user account in the default VDC. The VDC admin user account has its own password and user role.

BEFORE YOU BEGIN

Log in to the default or admin VDC as a network administrator.

Obtain an IPv4 or IPv6 address for the management interface (mgmt 0) if you want to use out-of-band management for the VDC.

SUMMARY STEPS

1. **switchto vdc** *vdc-name*
2. (Optional) **show vdc current-vdc**

DETAILED STEPS

	Command	Purpose

Step 1	`switchto vdc` *vdc-name*
	
	Example:
	`switch# switchto vdc NewVDC`
	`switch-NewVDC#`
		Switches to the VDC.

Step 2	`show vdc current-vdc`
	
	Example:
	`switch-NewVDC# show vdc current-vdc`
		(Optional) Displays the current VDC number.

Verifying the VDC Configuration

To display the VDC configuration, perform one of the following tasks:

Command	Purpose
show running-config {**vdc** | **vdc-all**}	Displays the VDC information in the running configuration. Use this command in the default VDC to display the configuration for all VDCs on the physical device.
show vdc [*vdc-name*] [**detail**]	Displays the VDC status information. Use this command in the default VDC to display the status of all VDCs.
show vdc current-vdc	Displays the current VDC number.
show vdc membership [**status**]	Displays the VDC interface membership information. Use this command to ensure that you move the correct interfaces to a VDC.
show vdc shared membership	Displays the shared VDC interface membership information.
show vdc resource template	Displays the VDC template configuration. Use this command to verify the configuration of a VDC resource template before using it to create your VDC.

For information about the fields in the output from these commands, see the *Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*.

Configuration Example for Ethernet VDC Creation and Initialization

Note   Beginning with the Cisco NX-OS Release 5.2(1), you can run FCoE on the Cisco Nexus Series 7000 devices. You must create a separate storage VDC to run FCoE. See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for an example of configuring a storage VDC.

This example shows how to create and initialize a VDC:

```
switch# config t
switch(config)# vdc test
switch(config-vdc)# allocate interface ethernet 2/46
Moving ports will cause all config associated to them in source vdc to be removed. Are you
sure you want to move the ports?  [yes] yes
switch(config-vdc)# exit
switch(config)# switchto vdc test


        ---- System Admin Account Setup ----

Do you want to enforce secure password standard (yes/no) [y]: y

  Enter the password for "admin":<password>
  Confirm the password for "admin":<password>
```

```
                    ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

Please register Cisco Nexus7000 Family devices promptly with your
supplier. Failure to register may affect response times for initial
service calls. Nexus7000 devices must be registered to receive
entitled support services.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no): yes


  Create another login account (yes/no) [n]: n

  Configure read-only SNMP community string (yes/no) [n]: n

  Configure read-write SNMP community string (yes/no) [n]: n

  Enter the switch name : Test

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address : 10.10.5.5

    Mgmt0 IPv4 netmask : 255.255.254.0

  Configure the default gateway? (yes/no) [y]: y

    IPv4 address of the default gateway : 10.10.5.1

  Configure advanced IP options? (yes/no) [n]:

  Enable the telnet service? (yes/no) [y]:

  Enable the ssh service? (yes/no) [n]: y

    Type of ssh key you would like to generate (dsa/rsa/rsa1) : rsa

    Number of  key bits <768-2048> : 768

  Configure the ntp server? (yes/no) [n]:

  Configure default switchport interface state (shut/noshut) [shut]:

  Configure default switchport trunk mode (on/off/auto) [on]:

The following configuration will be applied:
  switchname Test
interface mgmt0
ip address 10.10.5.5 255.255.254.0
no shutdown
exit
vrf context management
ip route 0.0.0.0/0 10.10.5.1
exit
  telnet server enable
  ssh key rsa 768 force
  ssh server enable
  system default switchport shutdown
```

```
  system default switchport trunk mode on

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:

[#####################################] 100%

Cisco Data Center Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2007, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html
switch-test# exit
switch#
```

This example displays the prompt to choose admin VDC during the switch bootup:

```
  Enter the password for "admin":
  Confirm the password for "admin":

  Do you want to enable admin vdc (yes/no) [n]:yes
```

This example shows how to change the name of a VDC:

```
n7k-ts-2# show vdc

vdc_id  vdc_name    state           mac
------  --------    -----           ----------
1       n7k-ts-2    active          00:22:55:7a:72:c1
2       c2          active          00:22:55:7a:72:c2
3       d2          active          00:22:55:7a:72:c3 <----! current name is 'd2'
4       dcn-sv      active          00:22:55:7a:72:c4

n7k-ts-2# switchto vdc d2

n7k-ts-2-d2(config)# hostname d2-new

n7k-ts-2-d2-new# 2010 Mar 16 18:40:40 n7k-ts-2-d2-new %$ VDC-3 %$
%VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from vty by  on console0

n7k-ts-2-d2-new# exit

n7k-ts-2# show vdc

vdc_id  vdc_name    state           mac
------  --------    -----           ----------
1       n7k-ts-2    active          00:22:55:7a:72:c1
2       c2          active          00:22:55:7a:72:c2
3       d2-new      active          00:22:55:7a:72:c3 <-----!!! VDC name changed
4       dcn-sv      active          00:22:55:7a:72:c4

n7k-ts-2# show running-config vdc

!Command: show running-config vdc

vdc d2-new id 3   <------------------ VDC name changed!!!!
  allocate interface
```

```
Ethernet1/1-9,Ethernet1/11,Ethernet1/13,Ethernet1/15,Ethern
et1/25,Ethernet1/27,Ethernet1/29,Ethernet1/31
  allocate interface Ethernet2/2-12
  boot-order 1
  limit-resource vlan minimum 16 maximum 4094
  limit-resource monitor-session minimum 0 maximum 2
  limit-resource vrf minimum 16 maximum 200
  limit-resource port-channel minimum 0 maximum 768
  limit-resource u4route-mem minimum 8 maximum 8
```

Configuration Examples for Default and Nondefault VDCs

This section includes the following topics:

Example Running Configuration from the Default VDC

This example shows a nondefault VDC configuration from the running configuration of the default VDC:

```
vdc payroll id 2
  limit-resource vlan minimum 16 maximum 4094
  limit-resource monitor-session minimum 0 maximum 2
  limit-resource vrf minimum 16 maximum 1000
  limit-resource port-channel minimum 0 maximum 192
  limit-resource u4route-mem minimum 8 maximum 80
  limit-resource u6route-mem minimum 4 maximum 48
```

Example Running Configuration from a Nondefault VDC

This example shows the initial running configuration from a nondefault VDC:

```
version 4.0(1)
username admin password 5 $1$/CsUmTw5$/.3SZpb8LRsk9HdWAsQ501  role vdc-admin
telnet server enable
ssh key rsa 768 force
aaa group server radius aaa-private-sg
    use-vrf management
snmp-server user admin vdc-admin auth md5 0x061d8e733d8261dfb2713a713a95e87c priv
0x061d8e733d8261dfb2713a713a95e87c localizedkey
vrf context management
  ip route 0.0.0.0/0 10.10.5.1

interface Ethernet2/46

interface mgmt0
  ip address 10.10.5.5/23
```

Additional References for Creating VDCs

For additional information related to creating VDCs, see the following section:

- Related Documents for Creating VDCs, page 4-17

Related Documents for Creating VDCs

Related Topic	Document Title
Cisco NX-OS licensing	*Cisco NX-OS Licensing Guide*
Cisco Nexus 7000 Series 32-port 10-Gbps Ethernet modules	*Cisco Nexus 7000 Series Hardware Installation and Reference Guide*
Command reference	*Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*
FCoE commands	*Cisco NX-OS FCoE Command Reference for Cisco Nexus 7000 and Cisco MDS 9500*

Feature History for Creating VDCs

Table 4-6 lists the release history for this feature.

Table 4-6   Feature History for Creating VDC

Feature Name	Cisco NX-OS Release	Feature Information
Cisco Nexus 7710 switch and Cisco Nexus 7718 switch	6.2(2)	Added support for the Cisco Nexus 7710 switch and the Cisco Nexus 7718 switch on the Supervisor 2e module.
Admin VDC on Supervisor 1 module	6.2(2)	Added support for admin VDC on the Supervisor 1 module.
F2e Series modules	6.2(2)	Added the ability to enable the F2e Series module (a new configurable VDC module type, independent from and separate to the F2 VDC module type) on the chassis.
F2e Series modules	6.1(2)	Added support for storage VDCs on F2e Series modules
Supervisor modules, Number of VDCs, and the VDC license	6.1(1)	Added support for the new supervisor modules and increased number of VDCs, support for storage VDCs on F2 Series modules, and the VDC license requirement for Supervisor 2 and additional VDCs.
F2 Series module	6.0(1)	Added support for the F2 Series module.
Creating VDCs	6.0(1)	No change from Cisco NX-OS Release 5.2.
FCoE	5.2(1)	Added support for storage VDCs and the FCoE feature.
N7K-F132XP-15 module	5.1(1)	Added support for the N7K-F132XP-15 module.
Creating VDCs	4.2(1)	No change from Cisco NX-OS Release 4.1(2).
IPv4 unicast route memory resource	4.1(2)	Changed the default maximum value from 256 to 8.
IPv6 unicast route memory resource	4.1(2)	Changed the default maximum value from 256 to 4.

Table 4-6   Feature History for Creating VDC (continued)

Feature Name	Cisco NX-OS Release	Feature Information
Multicast route memory resources	4.1(2)	Added IPv4 and IPv6 multicast route memory resources.
Port channel resources	4.1(2)	Changed the default maximum value from 256 to 768.
IPv4 unicast route memory resource	4.0(2)	Changed the default maximum value from 256 to 320.
IPv6 unicast route memory resource	4.0(2)	Changed the default maximum value from 256 to 192.