Audience assumptions

This document is for the person who installs, administers, and troubleshoots servers and storage systems. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.
## Contents

### Introduction
- Virtual Connect overview ................................................................. 5
- Command line overview ................................................................... 5
- Command line syntax ......................................................................... 6
  - Parameters ......................................................................................... 6
  - Options ............................................................................................... 6
  - Properties ........................................................................................... 7
- CLI command execution modes .......................................................... 7
- Remote access to the Virtual Connect Manager ..................................... 8

### Command line ....................................................................................... 9
- Subcommands .................................................................................... 9
- Managed elements ............................................................................ 9
  - devicebay .......................................................................................... 10
  - domain ............................................................................................... 10
  - enclosure .......................................................................................... 12
  - enet-connection ............................................................................... 13
  - external-manager ............................................................................ 15
  - fabric ................................................................................................. 16
  - fc-connection .................................................................................... 17
  - firmware ........................................................................................... 18
  - igmp ..................................................................................................... 19
  - interconnect ...................................................................................... 19
  - ldap .................................................................................................... 20
  - ldap-group ....................................................................................... 21
  - mac-cache ........................................................................................ 22
  - network ............................................................................................. 23
  - profile ............................................................................................... 24
  - server ................................................................................................. 26
  - stackinglink ..................................................................................... 28
  - status ................................................................................................. 29
  - systemlog ........................................................................................ 29
  - uplinkport ......................................................................................... 29
  - uplinkset ........................................................................................... 31
  - user ..................................................................................................... 32
  - vcm .................................................................................................... 34
  - version ............................................................................................... 34
- Help subsystem ................................................................................... 34
- Output format ..................................................................................... 34
  - Interactive user output format .......................................................... 36
  - Scriptable output format ................................................................. 38

### Configuring the Virtual Connect domain using the CLI.......................... 40
- Basic configuration ............................................................................ 40
- Logging in to the CLI ........................................................................ 40
- Domain setup ..................................................................................... 41
- Network setup ................................................................................... 43
Introduction

Virtual Connect overview

Virtual Connect is a set of interconnect modules and embedded software for HP BladeSystem c-Class enclosures that simplifies the setup and administration of server connections. HP Virtual Connect includes the HP 1/10Gb Virtual Connect Ethernet Module for c-Class BladeSystem, the HP 4Gb Virtual Connect Fibre Channel Module for c-Class BladeSystem, and the HP Virtual Connect Manager.

Virtual Connect implements server edge virtualization so that server administrators can upgrade, replace, or move server blades within their enclosures without changes being visible to the external LAN and SAN environments.

The Virtual Connect Manager is embedded on the HP 1/10Gb Virtual Connect Ethernet Module for c-Class BladeSystem and is accessed by users through web links provided by the Onboard Administrator or through direct connection to the embedded web server.

The HP 1/10Gb VC-Enet Module supports the HP BladeSystem c7000 Enclosure, HP BladeSystem c3000 Enclosure, and all the server blades and networks contained within the enclosure and enables connection to all brands of data center Ethernet switches.

The HP 4Gb VC-FC Module enables connection of the enclosure to Brocade, Cisco, McData, or Qlogic data center Fibre Channel switches, but does not appear as a switch to the Fibre Channel fabric.

A Virtual Connect domain currently includes a single HP c-Class BladeSystem enclosure for a total of 16 servers. Within the domain, any server blade can access any LAN or SAN connected to a VC module, and a server blade can be used as a spare for any server blade within the same enclosure.

By stacking (cabling) the Ethernet modules within the domain, every server blade in the domain can be configured to access any external network connection. Fibre Channel modules within different I/O bays are each connected directly to the same set of FC SAN(s). With this configuration, the Virtual Connect Manager can deploy and migrate a server blade profile to any server in the Virtual Connect domain without the need to change external LAN or SAN configurations.

Command line overview

The CLI can be used as an alternative method for managing the Virtual Connect Manager. Using the CLI can be useful in the following scenarios:

- HP Management Applications (for example: Systems Insight Manager or Insight Control tools) can query the Virtual Connect Manager for information these tools need to present a complete management view of HP BladeSystem enclosures and the devices contained within. This interface is also used by the Management tools to execute provisioning and configuration tasks to devices within the enclosure.
- Users can develop tools that utilize Virtual Connect Manager functions for data collection and for executing provisioning and configuration tasks.
• When no browser is available or you prefer to use a command line interface, you can access management data and perform configuration tasks.

Command line syntax

CLI input is case-insensitive except when otherwise noted. The general CLI syntax format is as follows:

<subcommand> <managed element> <parameters> [<options>] [<properties>]

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>subcommand</td>
<td>Operation performed on a managed element</td>
</tr>
<tr>
<td>managed element</td>
<td>Management entity being operated on</td>
</tr>
<tr>
<td>parameters</td>
<td>Command extensions for a particular management operation</td>
</tr>
<tr>
<td>options</td>
<td>Attributes used to customize or control command execution behavior such as output format, quiet-mode, and others</td>
</tr>
<tr>
<td>properties</td>
<td>One or more name or value pairs that are accessories to the command operation, mainly for set and add operations</td>
</tr>
</tbody>
</table>

Example: ->add user mark password=asdf89g fullname="Mark Smith" enabled=true

In the above example, add is the subcommand, user is the managed element, mark is a required parameter for the operation, password is a required property, and fullname and enabled are optional properties.

Depending on the specific command being executed, certain parameters or properties might be required. For example, when adding a new user, both a parameter representing the user name, as well as a password (in the form of a property) are required to be specified. All other user properties are optional at the time the user is added. In general, the properties are in the format name=value, and more than one property is separated by a space.

Parameters

Parameters are command extensions that provide extra information needed for the execution of a particular command. Whether or not a parameter is required depends on the specific command being executed. For example, the show user command has an optional parameter, which represents the user name if the user instance is being managed. If show user is entered, then a summary listing of all users is shown. However, if the optional parameter (user name) is provided, only a single user instance is displayed, for example, show user paul.

Some commands require that a parameter be specified, for example, the add user command. The required parameter is the user name (add user jake), and if the username is not provided, an error message displays indicating that a required parameter is missing.

Options

Options enable users to control certain behavior characteristics available during the command execution. Some examples of options include controlling output format and specifying a quiet mode for suppressing interactive prompts that would normally require input from the user.

Options are distinguished from other command line elements by using a hyphen (-) in front of the option. Option arguments are required or optional depending on the option being specified. For example, the -
output option requires an argument, which is a list of one or more output format attributes. However, the -quiet option does not require any arguments to be specified.

The general format of a CLI option is as follows:

-<option>[=argument1>,<argument2>, ...]

Example: -show user suzi -output=script1

In the example, -output is the option, and script1 is an option argument.

Properties

Properties are specific configuration attributes of a managed element. Properties are commonly used during set operations or add operations where a managed element is being modified or created. In some limited circumstances, properties might also be used as a part of a show or other command.

IMPORTANT: If a property value contains embedded spaces, then the entire property value must be contained within single or double quotes. Likewise, if a double quote is part of a property value, it should be contained within single quotes, and if a single quote is part of a property value, it should be contained within double quotes.

CLI command execution modes

The Virtual Connect Manager CLI provides two different methods for executing commands: interactive shell mode and non-interactive mode.

Interactive Shell Mode

This mode is used to invoke CLI command operations using the dedicated management shell. The shell is provided after the user logs in with valid credentials, and only accepts known VCM CLI commands as input. Users can quit the shell by using the exit command. An example of logging into the interactive management shell is provided below. In the example, the primary VCM is located at IP address 192.168.0.120.

>ssh 192.168.0.120

login as: michael
password: **********

--------------------------------------------------------------------
HP Virtual Connect Management CLI v1.20
(C) Copyright 2006-2007 Hewlett-Packard Development Company, L.P.
All Rights Reserved
--------------------------------------------------------------------

GETTING STARTED:

help : displays a list of available subcommands
exit : quits the command shell
<subcommand> ? : displays a list of managed elements for a subcommand
<subcommand> <managed element> ? : displays detailed help for a command
Non-Interactive Mode

In some cases, users might want to write automated scripts that execute a single command at a time. These scripts can be used to batch several commands in a single script file from the SSH client. An example of how to use the non-interactive mode for CLI command execution is provided below. In the example, the primary VCM is located at IP address 192.168.0.120.

IMPORTANT: To suppress prompting for a password during login, you must first setup the SSH encryption keys using the VCM Web GUI, and configure your SSH client properly with the keys. For additional information on configuring the SSH keys, see the HP Virtual Connect for c-Class BladeSystem User Guide.

```bash
-> ssh Administrator@192.160.0.120 show enclosure
<command output displayed to console>
```

Remote access to the Virtual Connect Manager

The Virtual Connect Manager CLI can be accessed remotely through any SSH session:

1. Start an SSH session to the Virtual Connect Manager using any SSH client application.
2. When prompted, type the assigned IP address or DNS name of the Virtual Connect Manager, and then press **Enter**.
3. Type a valid user name, and then press **Enter**.
4. Type a valid password, and then press **Enter**. The CLI command prompt displays.
5. Enter commands for the Virtual Connect Manager.
6. To terminate the remote access SSH session, close the communication software or enter `exit` at the CLI command prompt.
Command line

Subcommands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add</td>
<td>Add a new object to the domain or to another object</td>
</tr>
<tr>
<td>assign</td>
<td>Assign a server profile to a server bay</td>
</tr>
<tr>
<td>delete</td>
<td>Delete the Virtual Connect domain configuration</td>
</tr>
<tr>
<td>exit</td>
<td>Exit the Virtual Connect Manager command-line shell</td>
</tr>
<tr>
<td>help</td>
<td>Display help for a command or object</td>
</tr>
<tr>
<td>import</td>
<td>Import an enclosure into the domain</td>
</tr>
<tr>
<td>poweroff</td>
<td>Power off one or more servers</td>
</tr>
<tr>
<td>poweron</td>
<td>Power on one or more servers</td>
</tr>
<tr>
<td>reboot</td>
<td>Reboot one or more servers</td>
</tr>
<tr>
<td>remove</td>
<td>Remove or delete an existing object (for example, users or profiles)</td>
</tr>
<tr>
<td>reset</td>
<td>Reset one or more servers or other objects</td>
</tr>
<tr>
<td>set</td>
<td>Modify one or more configuration properties of an object</td>
</tr>
<tr>
<td>show</td>
<td>Display properties or information about an object</td>
</tr>
<tr>
<td>unassign</td>
<td>Unassign a server profile from a device bay</td>
</tr>
<tr>
<td>update</td>
<td>Update firmware on one or more interconnect modules</td>
</tr>
</tbody>
</table>

Managed elements

<table>
<thead>
<tr>
<th>Managed element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>devicebay (on page 10)</td>
<td>Display general enclosure device bay settings and information</td>
</tr>
<tr>
<td>domain (on page 10)</td>
<td>Manage general Virtual Connect domain settings and information</td>
</tr>
<tr>
<td>enclosure (on page 12)</td>
<td>Manage general enclosure settings and information</td>
</tr>
<tr>
<td>enet-connection (on page 13)</td>
<td>Manage Ethernet network connections</td>
</tr>
<tr>
<td>external-manager (on page 15)</td>
<td>Manage external settings and information</td>
</tr>
<tr>
<td>fabric (on page 16)</td>
<td>Manage FC SAN fabrics</td>
</tr>
<tr>
<td>fc-connection (on page 17)</td>
<td>Manage Fibre Channel SAN fabric connections</td>
</tr>
<tr>
<td>firmware (on page 18)</td>
<td>Manage interconnect module firmware</td>
</tr>
<tr>
<td>igmp (on page 19)</td>
<td>Ethernet IGMP Snooping settings</td>
</tr>
<tr>
<td>interconnect (on page 19)</td>
<td>Manage I/O interconnect modules</td>
</tr>
<tr>
<td>ldap (on page 20)</td>
<td>Manage LDAP configuration settings</td>
</tr>
</tbody>
</table>
The following sections provide detailed information on how the subcommands are used with each managed element.

To display command help, type a command followed by `?` or `-help`. For additional information on the `help` subcommand, see "Help subsystem (on page 34)."

devicebay

Manage general enclosure device bay settings and information.

**Supported actions:** help, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show devicebay</td>
<td>Display all device bays in the domain</td>
</tr>
</tbody>
</table>

**Syntax**

`show devicebay [DeviceBayID|*]

**Parameters:**

**DeviceBayID**

The reference ID of a device bay in the domain
The format of the device bay name is `<EnclosureID:DeviceBay>`
When Enclosure ID is not specified, it defaults to the local enclosure

**Examples:**

`->show devicebay`
Displays a summary listing of all device bays

`->show devicebay *`
Displays detailed information for all device bays

`->show devicebay enc0:2`
Displays detailed information for a specific device bay of a specific enclosure

domain

Manage general Virtual Connect domain settings and information.
**Supported actions:** delete, help, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>delete domain</td>
<td>Delete the existing Virtual Connect domain configuration. Deleting the domain removes the entire Virtual Connect domain configuration and resets it back to the original defaults. After the domain has been deleted, you are logged out and the Virtual Connect Manager resets.</td>
</tr>
</tbody>
</table>

**Syntax**

```bash
delete domain [-quiet]
```

**Examples:**

```
->delete domain
Deletes the Virtual Connect domain configuration and prompts for user confirmation
```

```
->delete domain -quiet
Deletes the Virtual Connect domain quietly without prompting for user confirmation (primarily used in automated scripting scenarios)
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set domain</td>
<td>Modify domain configuration properties</td>
</tr>
</tbody>
</table>

**Syntax**

```bash
set domain [Name=<NewName>] [DomainIp=<Enabled|Disabled>] [IpAddress=<IPAddress>] [SubnetMask=<mask>] [Gateway=<Gateway>] [MacType=<VC-Defined|Factory-Default|User-Defined>] [MacPool=<1-64>] [MacStart=<address>] [MacEnd=<address>] [WwnType=< VC-Defined|Factory-Default>] [WwnPool=<1-64>]
```

**Properties:**

- **Name**
  The new name of the domain. Valid characters include alphanumeric, "_", and ".". The maximum length of the name is 64 characters.

- **DomainIP**
  Enables or disables the Virtual Connect domain IP address. If enabled, then a valid IP address subnet mask must be configured. If disabled, then DHCP is used to obtain a valid IP address. Enabling domain IP address configuration, or changing the domain IP address can cause a temporary loss of connectivity to the Virtual Connect Manager. Use caution when changing these settings.

- **IpAddress**
  A valid IP address to use for the domain IP address configuration

- **SubnetMask**
  A valid subnet mask for the domain IP address configuration

- **Gateway**
  A valid gateway address for the domain IP address configuration

- **MacType**
  The type of MAC address source to use for assignment. Valid values include VC-Defined, Factory-Default, and User-Defined

- **MacPool**
  The pre-defined MAC pool to use for address assignment. Valid values include integers 1-64. This property is only valid if the MacType is set to "VC-Defined". If not specified, the default pool ID is 1.

- **MacStart**
  The starting MAC address in a custom user-defined range. This property is only valid if the MacType is set to "User-Defined"

- **MacEnd**
  The ending MAC address in a custom user-defined range. This property is only valid if the MacType is set to "User-Defined"

- **WwnType**
  The type of WWN address source to use for assignment. Valid values include VC-Defined and Factory-Default.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WwnPool</td>
<td>The pre-defined WWN pool to use for address assignment. Valid values include integers 1-64. This property is only valid if the WwnType is set to &quot;VC-Defined&quot;. If not specified, the default pool ID is 1.</td>
</tr>
</tbody>
</table>

Examples:

```
->set domain Name=MyNewDomainName
  Changes the name of the Virtual Connect domain

->set domain DomainIp=Enabled
  Enables the domain IP address

->set domain DomainIp=Enabled IpAddress=192.168.0.120 SubnetMask=255.255.255.0 Gateway=192.168.0.1
  Configures the domain IP address and enables it

->set domain DomainIp=Disabled
  Disables the domain IP address and uses DHCP instead

->set domain MacType=VC-Defined MacPool=10
  Sets the MAC address source to VC-Defined with a pre-defined range

->set domain MacType=Factory-Default
  Set the MAC address source to use factory default MAC addresses

->set domain MacType=User-Defined MacStart=00-17-A4-77-00-00 MacEnd=00-17-A4-77-00-FF
  Sets the MAC address source to a custom, user-defined address range

->set domain WwnType=VC-Defined WwnPool=5
  Sets the WWN address source to VC-Defined with a pre-defined range

->set domain WwnType=Factory-Default
  Sets the WWN address source to use factory default WWN addresses
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show domain</td>
<td>Display general Virtual Connect domain information, such as the Virtual Connect domain name and the VCM domain IP address settings</td>
</tr>
</tbody>
</table>

Syntax

```
show domain [addressPool]
```

Examples:

```
->show domain
  Displays domain information

->show domain addressPool
  Displays the VC defined address pools for the domain
```

enclosure

Manage general enclosure settings and information.

Supported actions: help, import, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>import enclosure</td>
<td>Import an enclosure into the domain</td>
</tr>
</tbody>
</table>
**import enclosure**

**Syntax**

```
import enclosure UserName=<username> Password=<password>
```

The password field is optional on the command line. If not specified on the command line, the user is prompted for the same interactively.

**Properties:**

- **UserName**: A valid user name of the Onboard Administrator user
- **Password**: A valid password of the Onboard Administrator user

**Example**

```
->import enclosure UserName=Administrator Password=fgg7h*1
```

Imports the local enclosure

**show enclosure**

**Syntax**

```
show enclosure [EnclosureID|*]
```

**Parameters:**

- **EnclosureID**: The ID of an enclosure in the domain

**Examples:**

```
->show enclosure
```

Displays a summary listing of all enclosures

```
->show enclosure *
```

Displays detailed information for all enclosures

```
->show enclosure enc0
```

Displays detailed information for a specific enclosure

---

**enet-connection**

Manage Ethernet network connections.

**Supported actions:** add, help, remove, set

**Item Description**

- **add enet-connection**
  - **Description**: Add a new Ethernet network connection to an existing server profile
  - **Syntax**
    
    ```
    add enet-connection <ProfileName> [Network=<NetworkName>] [PXE=<enabled|disabled|UseBios>] [AddressType=<VC-Defined|Factory-Defined|User-Defined>] [EthernetMAC=<MAC Address> iScsiMAC=<MAC Address>]
    ```
  - **Parameters:**
    - **ProfileName**: The name of an existing profile to which the new connection is added. (required)
  - **Properties:**
    - **Network**: The name of an existing network to associate with the connection. If the network name is not specified, or is set to "unassigned," then the network remains unassigned. (optional)
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PXE</td>
<td>Enables or disabled PXE on the network connection. Valid values are enabled, disabled, and UseBios. If this value is not specified, the default</td>
</tr>
<tr>
<td></td>
<td>is &quot;UseBios.&quot; Only one connection can have PXE enabled per profile.</td>
</tr>
<tr>
<td>AddressType</td>
<td>The source of MAC address assignments to be used during the creation of the new connection. If not specified, the default is the domain default.</td>
</tr>
<tr>
<td></td>
<td>If &quot;User-Defined&quot; is specified, then both an Ethernet MAC Address and iSCSI MAC Address must also be specified. Valid values include Vc-</td>
</tr>
<tr>
<td></td>
<td>Defined, Factory-Default, and User-Defined.</td>
</tr>
<tr>
<td>EthernetMAC</td>
<td>The user-defined Ethernet MAC address to use for the connection. This property is required if the AddressType specified is &quot;User-Defined.&quot;</td>
</tr>
<tr>
<td>iScsiMAC</td>
<td>The user-defined iSCSI MAC address to use for the connection. This property is required if the AddressType specified is &quot;User-Defined.&quot;</td>
</tr>
</tbody>
</table>

Examples:

```bash
->add enet-connection MyNewProfile
Network=SomeNetwork
Adds a new Ethernet network connection to a profile
```

```bash
->add enet-connection MyNewProfile
Network=SomeNetwork2  PXE=enabled
Adds a new Ethernet network connection and enables PXE
```

```bash
->add enet-connection MyNewProfile
Adds a new Ethernet network connection and leaves the network unassigned
```

```bash
->add enet-connection MyNewProfile
AddressType=Factory-Default
Adds a new Ethernet network connection and uses factory default addresses
```

```bash
->add enet-connection MyNewProfile AddressType=Vc-Defined
Adds a new Ethernet network connection using VC-defined addresses
```

```bash
->add enet-connection MyNewProfile AddressType=User-Defined EthernetMAC=00-17-A4-77-00-00 iScsiMAC=00-17-A4-77-00-01
Adds a new Ethernet network connection and provides user-defined MAC addresses
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set enet-connection</td>
<td>Modify an existing server profile connection</td>
</tr>
</tbody>
</table>

Syntax

```bash
set enet-connection <ProfileName> <Port>
[Network=<NetworkName>]
[PXE=<enabled|disabled|UseBios>]
```

Parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProfileName</td>
<td>The name of the server profile that contains the connection to modify</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the connection being modified</td>
</tr>
</tbody>
</table>

Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetworkName</td>
<td>The name of the Ethernet network to associate with the connection.</td>
</tr>
<tr>
<td></td>
<td>Applies to Ethernet network connections only.</td>
</tr>
</tbody>
</table>
### Item Description

Enables or disables PXE on a connection. Valid values are enabled, disabled, and UseBios. Applies to Ethernet network connections only. PXE can be enabled on one connection per profile.

**Examples:**

```bash
->set enet-connection MyProfile 2 NetworkName=NewNetworkName
Changes the network of an Ethernet connection
```

```bash
->set enet-connection RedProfile 1 NetworkName=""
Sets a network connection to "unassigned"
```

```bash
->set enet-connection GreenProfile 3 PXE=disabled
Disables PXE on an Ethernet connection
```

---

### external-manager

Manage external manager settings and information.

**Supported actions:** delete, help, set, show

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show external-manager</td>
<td>Display the information of an existing external manager</td>
</tr>
</tbody>
</table>

**Syntax:**

`show external-manager`

**Examples:**

```bash
->show external-manager
Displays the information of an existing external manager.
```

```bash
->show external-manager
Displays the information of an existing external manager in the specified output format.
```

```bash
->show external-manager
Displays the information of an existing external manager in the specified output format.
```

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove external-manager</td>
<td>Remove an existing manager and regain control of the VC Manager</td>
</tr>
</tbody>
</table>

**Syntax:**

`remove external-manager UserName=<username>`

**Properties:**

**UserName**

A valid external manager user name

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set external-manager</td>
<td>Modify external manager configuration properties</td>
</tr>
</tbody>
</table>

**Syntax:**

`set external-manager UserName=<username>
Enabled=<true|false>`
### Item | Description
---|---
**Examples:**
->set external-manager UserName=steve Enabled=false
Disables the external manager

->set external-manager UserName=steve Enabled=true
Enables the external manager

---

**fabric**

Manage Fibre Channel SAN fabrics.

**Support actions:** help, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>set fabric</strong></td>
<td>Modify an existing FC SAN fabric</td>
</tr>
</tbody>
</table>

**Syntax**

`set fabric <FabricName> [Name=<NewName>] [NumPorts=<1|2|4>] [PortSpeed=<Auto|2Gb|4Gb>]`

**Parameters:**

- **FabricName**
  The name of an existing FC SAN fabric to modify (required)

- **Properties:**
  - **Name**
    The new name of the fabric
  - **NumPorts**
    The number of uplink ports to use for the fabric
  - **PortSpeed**
    The port speed for the uplink ports in the fabric

**Examples:**

->set fabric MyFabric NumPorts=2
Changes the number of ports used by the fabric

->set fabric Blue Name=Red
Changes the name of an existing fabric from "Blue" to "Red"

->set fabric GreenFabric PortSpeed=4Gb
Changes the port speed of the uplinks in a fabric

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>show fabric</strong></td>
<td>Display all FC SAN fabrics</td>
</tr>
</tbody>
</table>

**Syntax**

`show fabric [<FabricName> | *]`

**Examples:**

->show fabric
Displays a summary listing of all FC SAN fabrics

->show fabric *
Displays detailed information for all FC SAN fabrics

->show fabric SAN_5
Displays detailed information for a specific FC SAN fabric
Manage Fibre Channel SAN fabric connections.

**Supported actions:** add, help, set

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add fc-connection</td>
<td>Add a new FC SAN connection to an existing server profile</td>
</tr>
</tbody>
</table>

**Syntax**

```
add fc-connection <ProfileName> [Fabric=<FabricName>] [Speed=<Auto|2Gb|4Gb|Disabled>]
```

**Parameters:**

- **ProfileName**
  - The name of an existing profile to which the new connection is added.
  - *(required)*

- **Fabric**
  - The name of an existing fabric to associate with the connection. If the fabric name is not specified, it will be assigned to the next available SAN Fabric.

- **Speed**
  - The port speed of the connection port. Valid values include Auto, 2Gb, 4Gb, and Disabled. If not specified, then the default port speed is set to "Auto".

- **AddressType**
  - The source of WWN address assignments to be used during the creation of the new connection. If not specified, the default is the domain default. If "UserDefined" is specified, then both a Port WWN and Node WWN must also be specified. Valid values include Vc-Defined, Factory-Default, and User-Defined.

- **PortWWN**
  - The user-defined Port WWN address to use for the connection. This property is required if the AddressType specified is "User-Defined".

- **NodeWWN**
  - The user-defined Node WWN address to use for the connection. This property is required if the AddressType specified is "User-Defined".

**Examples:**

- `->add fc-connection MyNewProfile Fabric=SAN_5`
  - Adds a new FC SAN fabric connection to a profile

- `->add fc-connection MyNewProfile Fabric=SomeFabric Speed=4Gb`
  - Adds a new FC SAN connection and configures the port speed

- `->add fc-connection MyNewProfile`
  - Adds a new FC SAN connection and uses the next available fabric

- `->add fc-connection MyNewProfile AddressType=Factory-Default`
  - Adds a new FC SAN connection and uses factory-default addresses

- `->add fc-connection MyNewProfile AddressType=Vc-Defined`
  - Adds a new FC SAN connection and uses VC-defined addresses

- `->add fc-connection MyNewProfile AddressType=User-Defined PortWWN=50:06:0B:00:00:C2:62:00 NodeWWN=50:06:0B:00:00:C2:62:00`
  - Adds a new FC SAN connection and provides user-defined WWN addresses

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set fc-connection</td>
<td>Modify an existing server profile connection</td>
</tr>
</tbody>
</table>
### Command line 18

#### Item Description

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>set fc-connection &lt;ProfileName&gt; &lt;Port&gt;</code></td>
<td>Changes the fabric of an FC SAN connection</td>
</tr>
<tr>
<td>`[Fabric=&lt;FabricName&gt;] [Speed=&lt;Auto</td>
<td>2Gb</td>
</tr>
<tr>
<td><code>[BootPriority=&lt;priority&gt;] [BootPort=&lt;portName&gt;]</code></td>
<td>Changes the FC SAN Fabric of an FC SAN connection</td>
</tr>
<tr>
<td><code>[BootLun=&lt;LUN&gt;]</code></td>
<td>Changes the port speed of a FC SAN connection</td>
</tr>
</tbody>
</table>

#### Parameters:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProfileName</td>
<td>The name of the server profile that contains the connection to modify</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the connection being modified</td>
</tr>
</tbody>
</table>

#### Properties:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric</td>
<td>The name of the FC SAN fabric to associate with the connection</td>
</tr>
<tr>
<td>Speed</td>
<td>The port speed of the FC SAN connection. Valid values include Auto, 4Gb, 2Gb, and Disabled</td>
</tr>
<tr>
<td>BootPriority</td>
<td>Controls whether the FC HBA port is enabled for SAN boot and will affect the BIOS boot order. Valid values include BIOS, Primary, Secondary, Disabled</td>
</tr>
<tr>
<td>BootPort</td>
<td>The target WWPN of the controller interface on the Fibre Channel storage target. The port name is a 64-bit identifier in the format: NN:NN:NN:NN:NN:NN:NN:NN, where N is a hexadecimal number</td>
</tr>
<tr>
<td>BootLun</td>
<td>The LUN of the volume used for SAN boot. Valid values include an integer from 0-255.</td>
</tr>
</tbody>
</table>

#### Examples:

- `->set fc-connection MyProfile 1 Fabric=SAN_5`  
  Changes the fabric of an FC SAN fabric connection
- `->set fc-connection RedProfile 2 Fabric=""`  
  Sets a FC SAN fabric connection to "Unassigned"
- `->set fc-connection BlueProfile 1 Fabric=SAN_7`  
  Changes the FC SAN Fabric of an FC SAN connection
- `->set fc-connection BlueProfile 1 Speed=4Gb`  
  Changes the port speed of a FC SAN connection
- `->set fc-connection BlueProfile 1 BootPriority=Primary BootPort=50:06:0B:00:00:C2:62:00 BootLun=5`  
  Changes the SAN boot priority and sets additional boot parameters

---

### firmware

Display or update Virtual Connection firmware version.

Support actions: help, show, update

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show firmware</td>
<td>Display current version of firmware of all interconnect modules in the domain</td>
</tr>
</tbody>
</table>

#### Syntax

`show firmware`

#### Examples:

- `->show firmware`  
  Displays current version of the firmware
### update firmware

**Update the firmware on all Virtual Connect modules in the domain**

**Syntax**

```plaintext
update firmware url=<firmware image address>
```

**Example**

```plaintext
->update firmware url=http://www.myserver.com/fw/vc-1.20.rom
```

Updates the firmware on all Virtual Connect modules in the domain

---

### igmp

**Manage Ethernet IGMP Snooping settings.**

**Supported actions:** help, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set igmp</td>
<td>Modify Ethernet IGMP Snooping settings</td>
</tr>
</tbody>
</table>

**Syntax**

```plaintext
set igmp [Enabled=<true|false>] [Timeout=<interval>]
```

**Properties:**

- **Enabled**: Enables or disables IGMP Snooping. Valid values include "true" and "false".
- **Timeout**: The idle timeout interval (in seconds) for IGMP Snooping. Valid values include integers from 1-3600. The default IGMP idle timeout is 260 seconds.

**Examples:**

```plaintext
->set igmp Enabled=true
Enables IGMP Snooping

->set igmp Enabled=true Timeout=30
Enables IGMP Snooping and sets the idle timeout
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show igmp</td>
<td>Display Ethernet IGMP Snooping settings</td>
</tr>
</tbody>
</table>

**Syntax**

```plaintext
show igmp
```

**Example**

```plaintext
->show igmp
```

Displays IGMP Snooping settings

---

### interconnect

**Manage I/O interconnect modules.**

**Supported actions:** help, remove, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove interconnect</td>
<td>Remove a module from the domain that has physically been removed from an enclosure</td>
</tr>
</tbody>
</table>

**Syntax**

```plaintext
remove interconnect <ModuleID|*>  
```

**Parameters:**

- **ModuleID**: The ID of the module to remove. The ID is in the format `<EnclosureID>:<BayNumber>`

**Examples:**

---
### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-remove interconnect enc0:2</code></td>
<td>Removes a specific interconnect module (bay 2) from the domain</td>
</tr>
<tr>
<td><code>-remove interconnect *</code></td>
<td>Removes all interconnect modules from the domain that are not physically present in any enclosures</td>
</tr>
<tr>
<td><code>-remove interconnect enc0:*</code></td>
<td>Remove all interconnect modules that are not physically present in a specific enclosure</td>
</tr>
</tbody>
</table>

### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>show interconnect</code></td>
<td>Display all interconnect modules known to the domain</td>
</tr>
</tbody>
</table>

#### Syntax

`show interconnect [ModuleID|*]`

#### Examples:

- `-show interconnect`
  
  Displays a summary listing of all interconnect modules

- `-show interconnect *`
  
  Displays detailed information for all interconnect modules

- `-show interconnect *:5`
  
  Displays the detailed information for all enclosures with interconnect modules in interconnect bay number 5

- `-show interconnect enc0:*`
  
  Displays interconnect modules in all bays of a specific enclosure

- `-show interconnect enc0:3`
  
  Displays detailed information on a specific interconnect module in interconnect bay 3 of the primary enclosure

---

### ldap

Manage Virtual Connect directory server authentication settings.

**Supported actions:** `help, set, show`

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>set ldap</code></td>
<td>Modify the Virtual Connect directory server settings</td>
</tr>
</tbody>
</table>

#### Syntax

```
set ldap [Enabled=<true|false>] [LocalUsers=<enabled|disabled>] [NtAccountMapping=<enabled|disabled>] [TargetDomain=<domainName>] [IpAddress=<ipAddress>] [SslPort=<portNum>] [SearchContext1=<string>] [SearchContext2=<string>] [SearchContext2=<string>]
```

#### Properties:

**Enabled**

Enables or disables directory authentication. Valid values include "true" and "false".
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LocalUsers</td>
<td>Enables or disables local user authentication. Valid values include &quot;Enabled&quot; and &quot;Disabled&quot;. WARNING: Disabling local users without correctly configuring LDAP authentication first may result in not being able to log on.</td>
</tr>
<tr>
<td>NtAccountMapping</td>
<td>Enables or disables Microsoft® Windows NT® account mapping. This capability allows you to enter &quot;domain\username&quot;. Valid values include &quot;Enabled&quot; and &quot;Disabled&quot;.</td>
</tr>
<tr>
<td>TargetDomain</td>
<td>The target domain name. The maximum length is 64 characters.</td>
</tr>
<tr>
<td>IpAddress</td>
<td>The IP address or DNS name of the directory server</td>
</tr>
<tr>
<td>SslPort</td>
<td>The port to use for LDAP communication. Valid values include a valid port number between 1 and 65535. The default port number is 636.</td>
</tr>
<tr>
<td>SearchContext1</td>
<td>First searchable path used to locate the user when the user is trying to authenticate using directory services.</td>
</tr>
<tr>
<td>SearchContext2</td>
<td>Second searchable path used to locate the user when the user is trying to authenticate using directory services.</td>
</tr>
<tr>
<td>SearchContext3</td>
<td>Third searchable path used to locate the user when the user is trying to authenticate using directory services.</td>
</tr>
<tr>
<td>Example</td>
<td>!&gt;set ldap LDAP=enabled IpAddress=192.168.0.124 Enables directory services authentication for users</td>
</tr>
</tbody>
</table>

### show ldap

**Example**

!>show ldap

### ldap-group

Manage Virtual Connect directory groups.

**Supported actions:** add, help, remove, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add ldap-group</td>
<td>Add a new directory group to the directory services configuration</td>
</tr>
<tr>
<td>Syntax</td>
<td>add ldap-group &lt;GroupName&gt; [Description=&lt;string&gt;] [Privileges=domain,server,network,storage]</td>
</tr>
<tr>
<td>Example</td>
<td>!&gt;add ldap-group MyNewGroup Description=&quot;Test Group&quot; Privileges=domain,server</td>
</tr>
<tr>
<td>remove ldap-group</td>
<td>Remove an existing directory group</td>
</tr>
<tr>
<td>Syntax</td>
<td>remove ldap-group &lt;GroupName&gt;</td>
</tr>
<tr>
<td>Example</td>
<td>!&gt;remove ldap-group MyGroup</td>
</tr>
</tbody>
</table>

**Example**

!>add ldap-group MyNewGroup Description="Test Group" Privileges=domain,server
**Item** | **Description**
---|---
set ldap-group | Modify the properties of an existing directory group

**Syntax**

```
set ldap-group <GroupName> [Description=<description>] [Privileges=<privileges>]
```

**Parameters:**

- **GroupName**
The name of an existing group to modify

**Properties:**

- **Description**
A user-friendly description for the group

- **Privileges**
A set of one or more privileges for the group. Valid values include any combination of "domain", "server", "network", and "storage".

**Example**
```
->set ldap-group MyGroup Description="Test Group"
Privileges=domain,server,network
```
Modifies a directory group description and privileges

---

**Item** | **Description**
---|---
show ldap-group | Display the existing directory groups

**Syntax**

```
show ldap-group
```

**Example**
```
->show ldap-group
```
Display LDAP group information

---

**mac-cache**

Manage Ethernet MAC Cache failover settings.

**Supported actions:** help, set, show

**Item** | **Description**
---|---
set mac-cache | Modify Ethernet MAC Cache failover settings

**Syntax**

```
set mac-cache [Enabled=<true|false>] [Refresh=<interval>]
```

**Properties:**

- **Enabled**
Enables or disables MAC cache failover. Valid values include "true" and "false".

- **Refresh**
The refresh interval for the MAC Cache (in seconds). Valid values include integers from 1-30.

**Examples:**
```
->set mac-cache Enabled=true
Enables MAC Cache Failover
```
```
->set mac-cache Enabled=true Refresh=10
Enables MAC Cache Failover and sets the refresh interval
```

**Item** | **Description**
---|---
show mac-cache | Display Ethernet MAC Cache failover settings

**Syntax**

```
show mac-cache
```

**Example**
```
->show mac-cache
```
Displays Ethernet MAC Cache failover settings
network

Manage Virtual Connect Ethernet networks.

**Supported actions:** add, help, remove, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add network</td>
<td>Create a new Ethernet Network. After the network has been created, uplink ports can be added, if the network is not using a shared uplink port set.</td>
</tr>
</tbody>
</table>

**Syntax**

```
add network <NetworkName> [UplinkSet=<UplinkSetName> VLanID=<VLanID>] [State=<Enabled|Disabled>] [SmartLink=<Enabled|Disabled>]
```

**Parameters:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetworkName</td>
<td>The unique name of the new network to create (required)</td>
</tr>
<tr>
<td>UplinkSet</td>
<td>The name of an existing shared uplink port set to use with this new network (optional). If this property is specified, then a valid VLAN ID must also be provided.</td>
</tr>
<tr>
<td>VLanID</td>
<td>The VLAN ID associated with the network (used with shared uplink port set only). The VLAN ID is a valid number between 1 and 4094.</td>
</tr>
<tr>
<td>State</td>
<td>Enables or Disables the network. Valid values are &quot;Enabled&quot; and &quot;Disabled&quot;. The default value is &quot;Enabled&quot;.</td>
</tr>
<tr>
<td>SmartLink</td>
<td>Enables or Disables the SmartLink capability for a port. Valid values are &quot;Enabled&quot; and &quot;Disabled&quot;. The default value is &quot;Disabled&quot;.</td>
</tr>
</tbody>
</table>

**Examples:**

```
->add network MyNewNetwork
Creates a new network, and then adds it to the domain
```

```
->add network MyNewNetwork2 UplinkSet=MyUplinkSet VLanID=145
Creates a new network and uses a shared uplink port set
```

```
->add network Network1 State=Disabled SmartLink=Enabled
Creates a new network with SmartLink Enabled and Status Disabled
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove network</td>
<td>Remove a network from the domain</td>
</tr>
</tbody>
</table>

**Syntax**

```
remove network <NetworkName | *
```

**Parameters:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetworkName</td>
<td>The name of an existing network in the domain</td>
</tr>
</tbody>
</table>

**Examples:**

```
->remove network MyNetwork
Removes a network
```

```
->remove network *
Removes all networks
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set network</td>
<td>Modify an existing Ethernet network</td>
</tr>
</tbody>
</table>

**Syntax**

```
set network <NetworkName> [Name=<NewName>] [State=<Enabled|Disabled>] [SmartLink=<Enabled|Disabled>]
```

---

**Command line** 23
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameters:</strong></td>
<td></td>
</tr>
<tr>
<td>NetworkName</td>
<td>The name of an existing network to modify</td>
</tr>
<tr>
<td><strong>Properties:</strong></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>The new name of the network</td>
</tr>
<tr>
<td>State</td>
<td>Enables or disables the network. Valid values are &quot;Enabled&quot; and &quot;Disabled&quot;</td>
</tr>
<tr>
<td>SmartLink</td>
<td>Enables or disables the SmartLink capability for a port</td>
</tr>
<tr>
<td><strong>Examples:</strong></td>
<td></td>
</tr>
<tr>
<td>- <code>set network MyNetwork State=Disabled</code></td>
<td>Disables an existing network named &quot;MyNetwork&quot;</td>
</tr>
<tr>
<td>- <code>set network Blue Name=Red</code></td>
<td>Changes the name of an existing network from &quot;Blue&quot; to &quot;Red&quot;</td>
</tr>
<tr>
<td>- <code>set network GreenNetwork SmartLink=Enabled</code></td>
<td>Enables the SmartLink feature on a specific network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>show network</strong></td>
<td>Display all Ethernet networks in the domain</td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td>`show network [&lt;NetworkName&gt;</td>
</tr>
<tr>
<td><strong>Examples:</strong></td>
<td></td>
</tr>
<tr>
<td>- <code>show network</code></td>
<td>Displays a summary listing of all networks</td>
</tr>
<tr>
<td>- <code>show network *</code></td>
<td>Displays detailed information for all networks</td>
</tr>
<tr>
<td>- <code>show network MyNetwork</code></td>
<td>Displays detailed information for a specific network</td>
</tr>
</tbody>
</table>

---

**profile**

Manage server profiles.

**Supported actions:** add, assign, help, remove, set, show, unassign

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>add profile</strong></td>
<td>Create a new server profile. After the profile has been created, the profile can then be configured using the &quot;set&quot; subcommand and additional network and fabric connections can also be added. The server profile can also be assigned to a device bay using the &quot;assign&quot; subcommand.</td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td><code>add profile &lt;ProfileName&gt; [-NoDefaultEnetConn] [-NoDefaultFcConn]</code></td>
</tr>
<tr>
<td><strong>Parameters:</strong></td>
<td></td>
</tr>
<tr>
<td>ProfileName</td>
<td>The unique name of the new server profile to create</td>
</tr>
<tr>
<td><strong>Options:</strong></td>
<td></td>
</tr>
<tr>
<td>NoDefaultEnetConn</td>
<td>Do not add default Ethernet Network connections when creating the server profile</td>
</tr>
<tr>
<td>NoDefaultFcConn</td>
<td>Do not add default FC SAN connections when creating the server profile</td>
</tr>
</tbody>
</table>
### Examples:

- `->add profile MyNewProfile`
  Creates a new profile and adds it to the domain, using default connections

- `->add profile MyNewProfile2 -NoDefaultEnetConn`
  Creates a new profile without adding default Ethernet connections

- `->add profile MyNewProfile2 -NoDefaultFcConn`
  Creates a new profile without adding default FC connections

- `->add profile MyNewProfile2 -NoDefaultEnetConn -NoDefaultFcConn`
  Creates a new profile without adding default Ethernet and FC connections

### assign profile

**Description:** Assign a server profile to a device bay

**Syntax:**

```
assign profile <ProfileName> <DeviceBay>
```

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProfileName</td>
<td>The unique name of the server profile to assign</td>
</tr>
<tr>
<td>DeviceBay</td>
<td>The device bay to assign the profile to, in the format: EnclosureID:DeviceBayNumber. If EnclosureID is not specified it defaults to the local enclosure.</td>
</tr>
</tbody>
</table>

**Example**

```
->assign profile MyProfile1 enc0:1
```

Assigns a profile to device bay 1 of the primary enclosure

### remove profile

**Description:** Remove one or more server profiles from the domain

**Syntax:**

```
remove profile <ProfileName | *
```

**Examples:**

- `->remove profile MyProfile`
  Removes a server profile by name

- `->remove profile *`
  Removes all server profiles

### set profile

**Description:** Modify properties of an existing server profile

**Syntax:**

```
set profile <ProfileName> Name=<NewName>
```

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProfileName</td>
<td>The current name of the profile to modify</td>
</tr>
</tbody>
</table>

**Properties:**

| Name       | The new name of the server profile               |

**Example**

```
->set profile MyProfile Name=MyNewProfileName
```

Changes the name of a server profile
### show profile

Display all server profiles that exist in the domain.

**Syntax**

```
show profile [ <ProfileName> | * ]
```

**Examples:**

- `->show profile`
  
  Displays a summary listing of all server profiles.

- `->show profile *`
  
  Displays detailed information for all profiles.

- `->show profile MyProfile`
  
  Displays detailed information for a specific profile.

### unassign profile

Unassign a server profile from a device bay.

**Syntax**

```
unassign profile <ProfileName>
```

**Parameters:**

- **ProfileName**: The name of a server profile that is currently assigned to a device bay.

**Example**

```
->unassign profile MyProfile1
```

Unassigns a server profile from a device bay.

---

### poweroff server

Power off one or more physical servers.

**Syntax**

```
```

**Parameters:**

- **ServerID**: The reference ID of a physical server in the domain. The format of the server ID is `<EnclosureID:DeviceBay>`.
  
  If the Enclosure ID is not provided, then the primary or local enclosure is used by default.

**Options:**

- **Force**: Forces a power off operation without waiting for the OS to shutdown gracefully. This option should only be used as a last resort because it can potentially cause data loss on the server.

- **ForceOnTimeout**: Attempts a graceful power down, but if the server does not shutdown within the timeout period (default is 60 seconds), then the server will be forced to power off.

- **Timeout**: Specifies the timeout period (in seconds) to wait for the operation to complete (per server). The default timeout is 60 seconds.

**Examples:**

---

**server**

Manage server blades.

**Supported actions:** help, poweroff, poweron, reboot, show
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-&gt;poweroff server enc0:2</td>
<td>Shuts down a specific server in device bay 2 of an enclosure with ID enc0</td>
</tr>
<tr>
<td>-&gt;poweroff server enc0:2 -Force</td>
<td>Forces a power off operation on a specific server (primary/local enclosure)</td>
</tr>
<tr>
<td>-&gt;poweroff server *</td>
<td>Powers off all servers in the domain</td>
</tr>
<tr>
<td>-&gt;poweroff server enc0:*</td>
<td>Powers off all servers in a specific enclosure</td>
</tr>
<tr>
<td>-&gt;poweroff server enc0:2 -ForceOnTimeout</td>
<td>Attempts a graceful poweroff, but forces a shutdown if not completed within timeout period</td>
</tr>
<tr>
<td>-&gt;poweroff server * -timeout=180</td>
<td>Shuts down all servers and specifies a custom timeout of 3 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>poweron server</td>
<td>Power on one or more physical servers</td>
</tr>
</tbody>
</table>

**Syntax**

```bash
poweron server [<ServerID> | *] [-timeout=<timeout>]
```

**Parameters:**

- **ServerID**
  
The reference ID of a server in the domain. The format of the server ID is `<EnclosureID:DeviceBay>`.

**Options:**

- **Timeout**
  
The timeout period (in seconds) to wait for the operation to complete. The default timeout is 60 seconds.

**Examples:**

- `->poweron server 2`
  
Powers on the specific server in bay 2 of the primary enclosure

- `->poweron server *`
  
Powers on all servers in the domain

- `->poweron server enc0:*`
  
Powers on all servers in a specific enclosure

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reboot server</td>
<td>Reboot one or more physical servers</td>
</tr>
</tbody>
</table>

**Syntax**

```bash
```

**Parameters:**

- **ServerID**
  
The reference ID of a server in the domain. The format of the server ID is `<EnclosureID:DeviceBay>`. If the Enclosure ID is not provided, then the primary or local enclosure (enc0) is used by default.

**Options:**

- **Force**
  
Forces a reboot operation without waiting for the OS to shutdown gracefully. This option should only be used as a last resort because it can potentially cause data loss on the server.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ForceOnTimeout</td>
<td>Attempts a graceful power down, but if the server does not shutdown within the timeout period (default is 60 seconds), then the server will be forced to reboot.</td>
</tr>
<tr>
<td>Timeout</td>
<td>Specifies the timeout period (in seconds) to wait for the operation to complete (per server). The default timeout is 60 seconds.</td>
</tr>
</tbody>
</table>

**Examples:**

```plaintext
->reboot server 2
Reboots the specific server in device bay 2 of the primary enclosure

->reboot server enc0:2 -force
Reboots a server using the force option

->reboot server * -ForceOnTimeout -timeout=180
Reboots all servers using the ForceOnTimeout option and a custom timeout

->reboot server *
Reboots all servers in the domain

->reboot server enc0:*
Reboots all servers in a specific enclosure
```

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show server</td>
<td>Display all servers in the domain</td>
</tr>
</tbody>
</table>

**Syntax**

`show server [<ServerID> | *]`

**Parameters:**

**ServerID**

The reference ID of a server in the domain. The format of the server ID is `<EnclosureID:Bay>`

**Examples:**

```plaintext
->show server
Displays a summary listing of all servers

->show server *
Displays detailed information for all servers

->show server enc0:4
Displays detailed information for the specific server in device bay 4 of an enclosure named "MyEnclosure"
```

**stackinglink**

Display stacking link information and status.

**Supported actions:** help, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show stackinglink</td>
<td>Display stacking links and their status</td>
</tr>
</tbody>
</table>

**Syntax**

`show stackinglink`

**Example**

`->show stackinglink`

Displays a summary listing of all stacking links and status
status

View overall domain status information.

**Supported actions:** help, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show status</td>
<td>Display the status of the domain and all components in the domain</td>
</tr>
</tbody>
</table>

**Syntax**

```
show status
```

**Example**

```
->show status
```

Displays domain status information

systemlog

View Virtual Connect Manager system event log.

**Supported actions:** help, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show systemlog</td>
<td>Display the Virtual Connect manager system log</td>
</tr>
</tbody>
</table>

**Syntax**

```
show systemlog
```

**Example**

```
->show systemlog
```

Displays the system log

uplinkport

Manage interconnect module uplink ports.

**Supported actions:** add, help, remove, set, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add uplinkport</td>
<td>Add a new uplink port to an existing network or a shared uplink port set</td>
</tr>
</tbody>
</table>

**Syntax**

```
add uplinkport <PortID> [Network=<NetworkName> | UplinkSet=<UplinkSet>] [Speed=<Auto|10Mb|100Mb|1Gb|Disabled>]
```

**Parameters:**

| PortID          | The ID of an uplink port to add (required). The name is actually a combination of the enclosure name, interconnect bay, and port number in a single descriptor. The format of the port name is "<EnclosureID>:<InterconnectBay>:<PortNumber>". If Enclosure ID is not specified, it defaults to the local enclosure. |

**Properties:**

<table>
<thead>
<tr>
<th>Network</th>
<th>The name of an existing network to which the port is added</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkSet</td>
<td>The name of an existing shared uplink port set to which the port is added</td>
</tr>
<tr>
<td>Speed</td>
<td>Specifies the port speed for the port (optional). Acceptable values include Auto, 10Mb, 100Mb, 1Gb, and Disabled. If not specified, the default port speed is &quot;Auto&quot;.</td>
</tr>
</tbody>
</table>

**Examples:**
### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add uplinkport</td>
<td>Adds a new uplink port (Bay 1, Port 1) to a network</td>
</tr>
<tr>
<td>add uplinkport enc0:1:1</td>
<td>Network=MyNetwork</td>
</tr>
<tr>
<td>add uplinkport enc0:2:4</td>
<td>Network=MyNetwork Speed=1Gb</td>
</tr>
<tr>
<td>add uplinkport enc0:2:3</td>
<td>UplinkSet=MyUplinkSet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove uplinkport</td>
<td>Remove an uplink port element from a network or a shared uplink port set</td>
</tr>
<tr>
<td>Syntax</td>
<td>remove uplinkport &lt;PortID&gt; [Network=&lt;NetworkName&gt;</td>
</tr>
</tbody>
</table>

**Parameters:**

| PortID                      | The name of the port to remove from a network. (required). The port name must be in the following format: <EnclosureID>::<InterconnectBayNumber>::<PortNumber> |
| Network                     | The name of the network from which the port is removed                        |
| UplinkSet                   | The name of the shared uplink port set from which the port is removed         |

**Examples:**

- `->remove uplinkport enc0:1:2 Network=MyNetwork`  
  Removes a specific uplink port (Bay 1, Port 2) from a network

- `->remove uplinkport * Network=BlueNetwork`  
  Removes all uplink ports from a network named "BlueNetwork"

- `->remove uplinkport enc0:2:3 UplinkSet=SharedUplinkSet1`  
  Removes a specific uplink port (Bay 2, Port 3) from a shared uplink set

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set uplinkport</td>
<td>Modify an uplink port that exists as a member of a network or shared uplink port set</td>
</tr>
<tr>
<td>Syntax</td>
<td>set uplinkport &lt;PortID&gt; [Network=&lt;NetworkName&gt;</td>
</tr>
</tbody>
</table>

**Parameters:**

| PortID                      | The name of the port to modify (required). The specified port must already be added to a network or uplink port set. The port name is in the format: <EnclosureID>::<BayNumber>::<PortNumber> |
| Properties:                 |                                                                                             |
| Network                     | The name of the network to which the port belongs                                         |
| UplinkSet                   | The name of the shared uplink port set to which the port belongs                           |
| Speed                       | Specifies the port speed for the port. Acceptable values include Auto, 10Mb, 100Mb, 1Gb, and Disabled. |

**Examples:**

- `->set uplinkport enc0:1:2 Network=MyNetwork Speed=1Gb`  
  Changes the port speed of a network port
<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-&gt;set uplinkport enc0:2:1 Network=MyNetwork Speed=Disabled</td>
</tr>
<tr>
<td>Disables a specific port that belongs to a network</td>
</tr>
<tr>
<td>-&gt;set uplinkport enc0:2:4 UplinkSet=MyUplinkSet Speed=Disabled</td>
</tr>
<tr>
<td>Disables a specific port that belongs to a shared uplink set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show uplinkport</td>
</tr>
<tr>
<td>Display all Ethernet module uplink ports</td>
</tr>
</tbody>
</table>

**Syntax**

`show uplinkport`

**Example**

`->show uplinkport`

Displays all uplink ports

## uplinkset

Manage shared uplink port sets

**Supported actions:** add, help, remove, set, show

<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>add uplinkset</td>
</tr>
<tr>
<td>Create a new shared uplink port set</td>
</tr>
</tbody>
</table>

**Syntax**

`add uplinkset <UplinkSetName>`

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkSetName</td>
</tr>
<tr>
<td>The unique name of the new shared uplink port set to create (required)</td>
</tr>
</tbody>
</table>

**Example**

`->add uplinkset MyNewUplinkSet`

Creates a new shared uplink port set and adds it to the domain

<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remove uplinkset</td>
</tr>
<tr>
<td>Remove a shared uplink port set from the domain</td>
</tr>
</tbody>
</table>

**Syntax**

`remove uplinkset <UplinkSetName>`

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkSetName</td>
</tr>
<tr>
<td>The name of an existing shared uplink port set</td>
</tr>
</tbody>
</table>

**Example**

`->remove uplinkset MyUplinkSet`

Removes a shared uplink port set

<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set uplinkset</td>
</tr>
<tr>
<td>Modify an existing shared uplink port set</td>
</tr>
</tbody>
</table>

**Syntax**

`set uplinkset <UplinkSetName> [Name=<NewName>]`

**Parameters:**

<table>
<thead>
<tr>
<th>Parameter Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkSetName</td>
</tr>
<tr>
<td>The name of an existing shared uplink set to modify</td>
</tr>
</tbody>
</table>

**Properties:**

<table>
<thead>
<tr>
<th>Property Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>The new name of the shared uplink set</td>
</tr>
</tbody>
</table>

**Example**

`->set uplinkset Blue Name=Red`

Changes the name of an shared uplink set from "Blue" to "Red"
**Item** | **Description**
---|---
show uplinkset | Display shared uplink configurations

**Syntax**
show uplinkset [<UplinkSetName> | *]

**Examples:**
- `-> show uplinkset`  
  Displays a summary listing of all uplink sets
- `-> show uplinkset *`  
  Displays detailed information for all shared uplink sets
- `-> show uplinkset MyNetwork`  
  Displays detailed information for a specific shared uplink set

---

**Item** | **Description**
---|---
add user | Create a new user and add it to the Virtual Connect Manager database

**Syntax**
add user <username> Password=<password> [optional user properties]

**Properties:**
- **Password**  
  The password of the new user. The password of the new user can be entered as clear text in the command or as a masked string at the prompt.
- **FullName**  
  The full name of the user (optional)
- **ContactInfo**  
  Contact information for the user (optional)
- **Enabled**  
  Enables or disables the user [true | false] (optional)
- **Privileges**  
  The allowed privileges for the user (optional). Privileges can be any combination of "domain", "server", "network", or "storage" separated by commas.

**Examples:**
- `-> add user steve Password=fgY87hHl`  
  Adds a new user by specifying the minimal amount of properties
- `-> add user bill Password=Hgtw7272562 Privileges="domain, network" FullName="Bill Johnson" ContactInfo=billj@company.com Enabled=true`  
  Adds a new user and configures additional user properties
- `-> add user Admin Password=hjkhfd Privileges=*`  
  Adds an "Admin" user with all privileges

**Item** | **Description**
---|---
remove user | Remove a user from the Virtual Connect Manager database

**Syntax**
remove user <username>

**Examples:**
## Command Line

### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-&gt;remove user steve</td>
<td>Removes a specific user by name</td>
</tr>
<tr>
<td>-&gt;remove user *</td>
<td>Removes all users</td>
</tr>
</tbody>
</table>

### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set user</td>
<td>Modify attributes of an existing user</td>
</tr>
</tbody>
</table>

#### Syntax

set user <username> [one or more user properties]

#### Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserName</td>
<td>The new name of the user</td>
</tr>
<tr>
<td>Password</td>
<td>The new password of the user can be entered as clear text in the command or as a masked string at the prompt. If the Password value is blank, the user is prompted to enter the password at the prompt.</td>
</tr>
<tr>
<td>FullName</td>
<td>The full name of the user</td>
</tr>
<tr>
<td>ContactInfo</td>
<td>Contact information for the user</td>
</tr>
<tr>
<td>Enabled</td>
<td>Enables or disables the user [true</td>
</tr>
<tr>
<td>Privileges</td>
<td>The allowed privileges for the user (optional). Privileges can be any combination of &quot;domain&quot;, &quot;server&quot;, &quot;network&quot;, &quot;storage&quot; separated by commas.</td>
</tr>
</tbody>
</table>

#### Examples:

- ->set user steve Password=fgY87hH1
  Modifies an existing user's password

- ->set user steve Password
  Modifies an existing user's password, masked, at the prompt

- ->set user bill Password=HGtwf7272562 Privileges="domain, network" FullName="Bill Johnson" ContactInfo=billj@company.com Enabled=true
  Modifies several properties of an existing user

- ->set user tom privileges=* 
  Gives a user all privileges

### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show user</td>
<td>Display user summary or user details</td>
</tr>
</tbody>
</table>

#### Syntax

show user [<username>]

#### Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privileges</td>
<td>The allowed privileges for the user, which can be any combination of &quot;domain&quot;, &quot;server&quot;, &quot;network&quot;, or &quot;storage&quot; separated by commas</td>
</tr>
<tr>
<td>FullName</td>
<td>The full name of the user</td>
</tr>
<tr>
<td>ContactInfo</td>
<td>Contact information for the user</td>
</tr>
<tr>
<td>Enabled</td>
<td>Specifies if the user is enabled or disabled</td>
</tr>
</tbody>
</table>

#### Examples:

- ->show user
  Displays a listing of all existing users
### Item Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-&gt;show user steve</td>
<td>Displays details of an existing user by name</td>
</tr>
<tr>
<td>-&gt;show user *</td>
<td>Displays details of all existing users</td>
</tr>
</tbody>
</table>

### vcm

Reset the Virtual Connect Manager.

**Supported actions:** help, reset

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reset vcm</td>
<td>Reset the Virtual Connect Manager. A failover to the standby VCM may also be specified (optional), if there is a standby VCM available. IMPORTANT: Resetting the VCM causes a temporary loss in connectivity with the Virtual Connect Manager. If failover is specified and there is a standby VCM, users are logged off and must reconnect using the standby VCM IP address.</td>
</tr>
</tbody>
</table>

**Syntax**

```
reset vcm [-failover]
```

**Examples:**

```
->reset vcm
Resets the Virtual Connect Manager
```

```
->reset vcm -failover
Resets the Virtual Connect Manager and forces a failover to the standby VCM (if available)
```

### version

Display CLI version information.

**Supported actions:** help, show

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show version</td>
<td>Display CLI version information</td>
</tr>
</tbody>
</table>

**Syntax**

```
show version
```

**Example**

```
->show version
Displays CLI version and copyright information
```

### Help subsystem

The help subsystem consists of three options:

- **Help summary**—lists all supported actions and a short description of each:
  - `help` (or `?`)
  - `add` add an element to an existing object
  - `assign` assign a server profile to a device bay
• **Subcommand help**—displays help details associated with a specific subcommand, including supported managed elements:
  >assign -help (or assign ?)
  assign a server profile to a device bay

  Managed Elements:
  profile

  Examples:
  assign profile MyProfile enc0:1

• **Management element help**—provides a listing of objects that are supported with a specific subcommand and a brief description of the management element and what it represents in the management model:
  ->help devicebay

  General Enclosure Device Bay settings and information

  Supported Subcommands:
  help
  show

  ---------------------------------------------------------------

  ->show devicebay -help

  Description:

  This command displays all device bays in the domain

  Syntax:

  show devicebay [<DeviceBayName> | *]

  Parameters:

  DeviceBayName : The reference name of a device bay in the domain.
  The format of the device bay name is
  <EnclosureID:DeviceBay>

  Examples:

  - Display a summary listing of all device bays:
    ->show devicebay

  - Show detailed information for all device bays:
->show device bay *

- Show detailed information for a specific device bay 2 of a specific enclosure:
  ->show devicebay enc0:2

Output format

The CLI provides two different output formats:

- Interactive user output format
- Scriptable output format

The interactive user output format is the default. However, by using a command-line option, the user can also specify a "parse-friendly" output format, which provides data in a format that can be easily interpreted by automated scripts invoking the CLI. The different output formats primarily impact the show subcommand in the CLI infrastructure, where a majority of the informational details are displayed.

Interactive user output format

The interactive user output format provides a user-friendly view of information at the command line. When providing an overview, or listing, of several instances of data, a tabular text format is displayed. If an individual instance of data is being displayed, then the stanza format is used.

Example 1: Tabular text output format for displaying a user list

->show user

============================================================================
<table>
<thead>
<tr>
<th>UserName</th>
<th>Privileges</th>
<th>FullName</th>
<th>ContactInfo</th>
<th>Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>domain</td>
<td>Steve Johnson</td>
<td><a href="mailto:steve.johnson@hp.com">steve.johnson@hp.com</a></td>
<td>true</td>
</tr>
<tr>
<td></td>
<td>server</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>domain</td>
<td>Admin</td>
<td>Admin</td>
<td>true</td>
</tr>
<tr>
<td></td>
<td>server</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>steve</td>
<td>domain</td>
<td>Steve Johnson</td>
<td><a href="mailto:steve.johnson@hp.com">steve.johnson@hp.com</a></td>
<td>true</td>
</tr>
<tr>
<td></td>
<td>server</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>storage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
============================================================================
Example 2: Stanzas output format for displaying a single user instance

```
> show user steve
UserName    : steve
Privileges  : domain, server, network, storage
FullName    : Steve Johnson
ContactInfo : steve.johnson@hp.com
Enabled     : true
```

Example 3: Stanzas output format for displaying all user details

```
> show user *
UserName    : Administrator
Privileges  : domain, server, network, storage
FullName    : Steve Johnson
ContactInfo : steve.johnson@hp.com
Enabled     : true

UserName    : Admin
Privileges  : domain, server, network, storage
FullName    : Admin
ContactInfo : Admin
Enabled     : true

UserName    : steve
Privileges  : domain, server, network, storage
FullName    : Steve Johnson
ContactInfo : steve.johnson@hp.com
Enabled     : true

UserName    : brad
Privileges  : domain, server
FullName    : Brad Mills
ContactInfo : brad.mills@hp.com
Enabled     : true

UserName    : jim
Privileges  : network
FullName    : Jimmy Joe
ContactInfo : jimmy.joe@hp.com
Enabled     : true
```
UserName    : alice
Privileges  : storage
FullName    : Alice Candle
ContactInfo : alice.candle@hp.com
Enabled     : false

**Scriptable output format**

Scriptable output format allows scripts to invoke CLI commands and receive command responses that can be easily parsed by the scripts. This capability is provided by two options that are available: `-output=script1` and `-output=script2`. These options are described in more detail below. To display output with no headers or labels, use `no-headers` as an additional output option value.

---

**IMPORTANT:** If the delimiter is present within the data, then the entire value is surrounded by double quotes.

---

- **Script1 Output Format**

  The script1 output format can be used to format the output using a name-value pair format, using an equal sign as the delimiter. All text on the left side of the equal sign designates the “name” of a property, and the text on the right side of the equal sign designates the “value” of the property. If “no-headers” is provided as an additional option value, only the values are displayed. Each property is displayed on a separate line.

- **Script2 Output Format**

  The script2 output format can be used to format all instance data in a single line, using a semi-colon as the delimiter for the data. The first line contains the property names. This format is consistent with a “table view” of the data, where the first line is represented by a list of column labels, while the remaining lines provide the actual data being displayed. Each line represents a single instance of data. For example, in the case of showing users, each line provides all data corresponding to a single user instance.

The following examples provide some common scenarios for using the script output format options.

**Example 1: Scriptable output format displaying all enclosures**

```bash
->show enclosure -output=script1
ID=enc0
Name=Enclosure1
Import Status=Imported
Serial Number=USE0000BK2
Part Number=403321-021
Asset Tag=OA ASSET 453
```

**Example 2: Scriptable output format displaying user “Administrator” information**

```bash
->show user Administrator -output=script1
User Name=Administrator
Privileges=domain, server, network, storage
Full Name=
Contact Info=
Enabled=true
```
**Example 3: Scriptable output format displaying all users (with table header)**

```
->show user -output=script2
UserName;Privileges;FullName;ContactInfo;Enabled
Administrator;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
Admin;domain,server,network,storage;Admin;Admin;true
steve;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
```

**Example 4: Scriptable output format displaying all users (no table header)**

```
->show user -output=script2,no-headers
Administrator;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
Admin;domain,server,network,storage;Admin;Admin;true
steve;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
```

**Example 5: Scriptable output format displaying a single user (with table header)**

```
->show user steve -output=script2
UserName;Privileges;FullName;ContactInfo;Enabled
steve;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
```

**Example 6: Scriptable output format displaying a single user (no table header)**

```
->show user steve -output=script2,no-headers
steve;domain,server,network,storage;Steve
Johnson;steve.johnson@hp.com;true
```
Configuring the Virtual Connect domain using the CLI

Basic configuration

A Virtual Connect domain consists of an enclosure and a set of associated modules and server blades that are managed together by a single instance of the Virtual Connect Manager. The Virtual Connect domain contains specified networks, server profiles, and user accounts that simplify the setup and administration of server connections. Establishing a Virtual Connect domain enables administrators to upgrade, replace, or move servers within their enclosures without changes being visible to the external LAN/SAN environments.

Before getting started, perform the following tasks:

- Verify that the HP Onboard Administrator is running the latest firmware (must be at least v1.30 or later).
- Locate the Default Network Settings label attached to the HP 1/10Gb VC-Enet module in interconnect module bay 1 and note the following information:
  - DNS name
  - User name
  - Password
- Connect any Ethernet module stacking cables

**IMPORTANT:** After a CLI command is issued, it can take up to 90 seconds before configuration changes are stored in persistent memory. Disruptive actions such as powering cycling an I/O module within this time window can result in lost configuration changes.

The following sections provide the necessary steps to set up a basic domain.

For detailed information on a particular command, see "Managed elements (on page 9)."

Logging in to the CLI

The Virtual Connect Manager CLI can be accessed remotely through any SSH session ("Remote access to the Virtual Connect Manager" on page 8):

- SSH
  ```
  >ssh 192.168.0.120
  login as: Administrator
  password:
  ```

- Local User Authentication using default Administrator login credentials
  ```
  >ssh 192.168.0.120
  login as: Administrator
  ```
password: <Default Administrator login credentials>

- LDAP Authentication
  
  >ssh 192.168.0.120
  login as: <LDAP user>
  password: <password>

**Domain setup**

A Virtual Connect domain consists of an enclosure and a set of associated modules and server blades that are managed together by a single instance of the Virtual Connect Manager. The Virtual Connect domain contains specified networks, server profiles, and user accounts that simplify the setup and administration of server connections. Establishing a Virtual Connect domain enables administrators to upgrade, replace, or move servers within their enclosures without changes being visible to the external LAN/SAN environments.

Before getting started, perform the following tasks:

- Verify that the Onboard Administrator is running the latest firmware (must be at least v1.30 or later).
- Locate the Default Network Settings label attached to the HP 1/10Gb VC-Enet Module in interconnect module bay 1 and note the following information:
  - DNS name
  - User name
  - Password
- Connect any Ethernet module stacking cables

After logging in, perform the following tasks to setup the domain:

1. Import the enclosure.
2. Name the domain.
3. Set up local user accounts and privileges.

**Importing an enclosure**

Enter OA credentials during import:

>import enclosure username=Administrator password=myPassword

or

>import enclosure username=Administrator
Password=*****

**Setting the domain name**

To set the domain name, use the `set domain` command:

>set domain name=MyNewDomainName

The Virtual Connect domain name must be unique within the data center, and can be up to 64 characters without spaces or special characters.

**Configuring local users**

- Add a new user
>add user bob password=fhkjdhfk privileges=domain,network

• Modify an existing user
>set user bob fullname="Bob J Smith" enabled=false

• Remove an existing user
>remove user bob

• Remove all local users except for the Administrator account
>remove user *

Display local users:

• Summary display
>show user

• Detailed display
>show user *

• Displaying info on a single user
>show user steve

Up to 32 local user accounts can be created.

Each account can be set up to have a combination of up to four access privileges:

• Domain
  o Define local user accounts, set passwords, define roles
  o Import enclosures
  o Name the VC domain
  o Set the domain IP address
  o Update firmware
  o Administer SSL certificates
  o Delete the VC domain
  o Save configuration to disk
  o Restore the configuration from a backup

• Networking
  o Configure network default settings
  o Select the MAC address range to be used by the VC domain
  o Create, delete, and edit networks
  o Create, delete, and edit shared uplink sets

• Server
  o Create, delete, and edit server Virtual Connect profiles
  o Assign and unassign profiles to device bays
  o Select and use available networks
  o Power on and off server blades within the enclosure

• Storage
  o Select the WWNs to be used by the domain
  o Setup the connections to the external FC Fabrics
It is possible to create a user with no privileges. This user can only view status and settings.

**NOTE:** The vcmuser_ account is an internal Onboard Administrator account created and used by Virtual Connect Manager to communicate with the Onboard Administrator. This account can show up in the Onboard Administrator system log. This account cannot be changed or deleted.

### Configuring LDAP authentication support for users

- **Set LDAP properties**
  ```
  >set ldap ipaddress=192.168.0.110 enabled=true
  ```
- **Add/Remove LDAP directory groups**
  ```
  >add ldap-group MyNewGroup description="This is my test group"
  privileges=domain,server,network
  ```
- **Enable/Disable local users**
  ```
  >set ldap localusers=disabled
  ```
- **Display LDAP settings and directory groups**
  ```
  >show ldap
  >show ldap-group
  ```

### Network setup

To establish external Ethernet network connectivity for the HP BladeSystem c-Class enclosure, do the following:

1. Identify the MAC addresses to be used on the server blades deployed within this Virtual Connect domain.
2. Setup connections from the HP BladeSystem c-Class enclosure to the external Ethernet networks. These connections can be uplinks dedicated to a specific Ethernet network or shared uplinks that carry multiple Ethernet networks with the use of VLAN tags.

### Configuring MAC Address ranges

- **Use VC-Defined MAC addresses**
  ```
  >set domain MacType=VC-Defined MacPool=10
  ```
- **Use factory-default MAC addresses**
  ```
  >set domain MacType=Factory-Default
  ```
- **Set user-defined MAC addresses**
  ```
  >set domain MacType=User-Defined MacStart=00-17-A4-77-00-00 MacEnd=00-17-A4-77-00-FF
  ```

**IMPORTANT:** Configuring Virtual Connect to assign server blade MAC addresses requires careful planning to ensure that the configured range of MAC addresses is used once within the environment. Duplicate MAC addresses on an Ethernet network can result in a server network outage.

Each server blade Ethernet NIC ships with a factory default MAC address. The MAC address is a 48-bit number that uniquely identifies the Ethernet interface to other devices on the network. While the hardware ships with default MAC addresses, Virtual Connect has the ability to assign MAC addresses that will...
override the factory default MAC addresses while the server remains in that Virtual Connect enclosure. When configured to assign MAC addresses, Virtual Connect securely manages the MAC addresses by accessing the physical NICs through the enclosure Onboard Administrator and the iLO interfaces on the individual server blades.

Always establish control processes to ensure that a unique MAC address range is used in each Virtual Connect domain in the environment. Reusing address ranges could result in server network outages caused by multiple servers having the same MAC addresses.

If using Virtual Connect assigned MAC addresses, the following notes apply:

- Virtual Connect automatically reserves both a primary address and an iSCSI MAC address for use by multfunction gigabit server adapters, such as the HP NC373m PCI Express Dual Port Multifunction Gigabit server adapter. Only the primary MAC address is used by standard (not multifunction) Ethernet devices.
- If a server blade is moved from a Virtual Connect managed enclosure to a non-Virtual Connect enclosure, the local MAC addresses on that server blade are automatically returned to the original factory defaults.
- If a server blade is removed from a bay within a Virtual Connect domain and installed in another bay in the same Virtual Connect domain or in a bay in a different domain, it is assigned the new set of addresses appropriate for that server location.

**Assigned MAC addresses**

The MAC address range used by the Virtual connect domain must be unique within the environment. HP provides a set of pre-defined ranges that are for use by Virtual Connect Manager and will not conflict with server factory default MAC addresses.

When using the HP-defined MAC address ranges, ensure that each range is used only once within the environment.

**Selecting VC-assigned MAC address ranges**

When using VC-assigned MAC addresses, you can choose between using an HP pre-defined MAC address range or using a user-defined MAC address range.

- HP pre-defined MAC address range (recommended). These pre-defined ranges are reserved and will never show up as factory default on any hardware. There are 64 ranges of 1024 unique addresses to choose from. Be sure to use each range only once within a data center.
- User-defined MAC address range. To avoid potential conflict with other hardware MAC addresses in the environment, consider using a subrange of MAC addresses reserved by the IEEE for locally-administered MAC addresses. Ensure that the range does not conflict with any Ethernet device already deployed within the enterprise.

**IMPORTANT:** If you plan to use RDP for RedHat Linux installation and also plan to use User- or HP-defined MAC addresses, you must import the enclosure before running RDP.

Select the type and range of MAC address, and then click **Next**.

**NOTE:** After any server profiles are deployed using a selected MAC address range, that range cannot be changed until all server profiles are deleted.
Creating an enet-network

To create a new Ethernet network use the `add network` command:

```
> add network MyNetworkName
```

Modifying enet-network properties

To modify Ethernet network properties, use the `set network` command:

```
> set network MyNetworkName state=enabled name=NewName smartlink=enabled
```

Displaying enet-networks

To display Ethernet network properties, use the `show network` command:

- Summary display
  ```
  > show network
  ```
- Detailed display
  ```
  > show network *
  ```
- Single network display
  ```
  > show network MyNetwork
  ```

Adding uplink ports to an enet-network

To add uplink ports to an existing Ethernet network, use the `add uplinkport` command:

```
> add uplinkport enc0:1:1 network=MyNetwork
> add uplinkport 1:1 network=MyNetwork
```

Modifying uplink port properties

To modify an uplink port that exists as a member of a network or shared uplink set, use the `set uplinkport` command:

```
> set uplinkport network=Network1 speed=1Gb
```

Creating a shared uplink port set

To create a shared uplink port set, use the `add uplinkset` command:

```
> add uplinkset MyUplinkSetName
```

A shared uplink set is a way of identifying HP 1/10Gb VC-Enet module uplinks that will carry multiple networks over the same cable. In this case, each Ethernet packet carries a VLAN tag (IEEE 802.1Q) to identify the specific network to which it belongs. On shared uplinks, the VLAN tags are added when packets leave the VC-enabled enclosure and are removed when packets enter the enclosure. The external Ethernet switch and the Virtual Connect Manager must be configured to use the same VLAN tag identifier (a number between 1 and 4094) for each network on the shared uplink(s).

Virtual Connect places no special restrictions on which VLAN identifiers can be used, so the VLAN IDs already used for the networks in the data center can be used on these shared uplinks. To configure a shared uplink set for VLAN tagging, obtain a list of the network names and their VLAN IDs.

A shared uplink set enables multiple ports to be included to support port aggregation and link failover with a consistent set of VLAN tags.
Because VLAN tags are added or removed when Ethernet packets leave or enter the VC-Enet shared uplink, the VLAN tags have no relevance after the Ethernet packet enters the enclosure.

**IMPORTANT:** If you are deploying a server where VLAN tags will be used (added) on the server itself, do not connect the server Ethernet port carrying VLAN-tagged traffic to a shared uplink set.

Identifying an associated network as the native VLAN causes all untagged incoming Ethernet packets to be placed onto this network. Only one associated network can be designated as the native VLAN. All outgoing Ethernet packets are VLAN tagged.

### Displaying shared uplink port sets

- **Summary display**
  
  ```
  >show uplinkset
  ```

- **Detailed display**
  
  ```
  >show uplinkset *
  ```

- **Single uplinkset display**
  
  ```
  >show uplinkset MyUplinkSetName
  ```

### Adding uplink ports to a shared uplink port set

To add uplink ports to a shared uplink port set, use the `add uplinkport` command:

```
>add uplinkport enc0:1:2 uplinkset=MyUplinkSetName
```  

### Creating a network that uses a shared uplink port set

To create a network that uses a shared uplink port set, use the `add network` command:

```
>add network MyNewNetworkName uplinkset=MyUplinkSetName vlanid=156
```  

### Fibre Channel setup

To configure external Fibre Channel connectivity for the HP BladeSystem c-Class enclosure, do the following:

1. Identify WWNs to be used on the server blades deployed within this Virtual Connect Domain.
2. Define available SAN fabrics.

### Configuring WWN address ranges

- **VC-Defined**

  ```
  >set domain WwnType=VC-Defined WwnPool=5
  ```

- **Factory-Default**

  ```
  >set domain WwnType=Factory-Default
  ```

Each server blade FC HBA mezzanine card ships with factory default port and node WWNs for each FC HBA port. Each WWN is a 64-bit number that uniquely identifies the FC HBA port/node to other devices on the network. While the hardware ships with default WWNs, Virtual Connect has the ability to assign WWNs that will override the factory default WWNs while the server remains in that Virtual Connect enclosure. When configured to assign WWNs, Virtual Connect securely manages the WWNs by
accessing the physical FC HBA through the enclosure Onboard Administrator and the iLO interfaces on the individual server blades.

When assigning WWNs to a FC HBA port, Virtual Connect will assign both a port WWN and a node WWN. Because the port WWN is typically used for configuring fabric zoning, it is the WWN displayed throughout the Virtual Connect user interface. The assigned node WWN is always the same as the port WWN incremented by one.

Configuring Virtual Connect to assign WWNs in server blades maintains a consistent storage identity (WWN) even when the underlying server hardware is changed. This method allows server blades to be replaced without affecting the external Fibre Channel SAN administration.

⚠️ **CAUTION:** To avoid storage networking issues and potential loss of data associated with duplicate WWNs on a FC SAN fabric, plan carefully when allowing Virtual Connect to assign server blade WWNs so that the configured range of WWNs is used only once within the environment.

The WWN range used by the Virtual Connect domain must be unique within the environment. HP provides a set of pre-defined ranges that are reserved for use by Virtual Connect and will not conflict with server factory default WWNs.

When using the HP-defined WWN ranges, be sure that each range is used only once within the environment.

### Modifying FC fabric properties

To modify the properties of an existing FC SAN fabric, use the `set fabric` command:

```
>set fabric name=MyNewName portspeed=4Gb
```

Each HP 4Gb VC-FC module can be connected to one external FC SAN fabric. All uplinks must be on the same fabric. Use this command to:

- Name the FC SAN fabric connected to each VC-FC module.
- Set the number of uplinks to be used (1, 2, or 4).
- Select the uplink port speed to be used on each VC-FC module.

The number of enabled uplinks and the number of servers in the enclosure determines the effective oversubscription for that FC connection. For additional information on Fibre Channel mapping, see the *HP Virtual Connect for c-Class BladeSystem User Guide*.

### Displaying FC fabrics

To display a list of all FC SAN fabrics, use the `show fabric` command:

```
>show fabric
```

### Server Profile setup

A Virtual Connect server profile is a logical grouping of attributes related to server connectivity that can be assigned to a server blade. With the Virtual Connect v1.10 and higher, the server profile can include MAC address, PXE, and network connection settings for each server NIC port and WWN, SAN fabric connection, and SAN boot parameter settings for each Fibre Channel HBA port. After being defined, the server profile can be assigned to any server blade within the Virtual Connect domain. A Virtual Connect domain can have a maximum of 64 Virtual Connect server profiles.
Virtual Connect v1.20 adds the ability to configure PXE settings when using either VC Assigned or factory default MAC addresses. In addition, Use BIOS is a new option for PXE, which maintains the current settings as configured by RBSU.

A new feature in Virtual Connect v1.20 is the ability to override the Virtual Connect assigned MACs and/or WWNs when creating a new profile.

When a server profile is assigned to a server blade, the Virtual Connect Manager securely connects to the server blade, configures the NIC ports with the appropriate MAC addresses and PXE settings, and configures the FC HBA ports with the appropriate WWNs and SAN boot settings. In addition, the Virtual Connect Manager automatically connects the server blade Ethernet and Fibre Channel ports to the specified networks and SAN fabrics. This server profile can then be re-assigned to another server blade as needed, while maintaining the server’s network and SAN identity and connectivity.

The Virtual Connect Manager can be configured so that server blades use server factory default MACs/WWNs or Virtual-Connect-administered MACs/WWNs. These administered values override the default MAC addresses and WWNs when a server profile is assigned to a server, and appear to pre-boot environments and host operating system software as the hardware addresses. To use administered MAC addresses, select a range of HP pre-defined or user-specified MAC addresses.

Be sure to review the following list of guidelines before creating and deploying server profiles:

- The server blade firmware and option card firmware must be at a revision that supports Virtual Connect profile assignment. See the HP website (http://www.hp.com/go/bladesystemupdates).
- Before creating the first server profile, select whether to use moveable, administered MAC addresses and WWNs or whether to use the local server blade factory default MAC addresses and WWNs.
- After an enclosure is imported into a Virtual Connect domain, server blades remain isolated from the networks and SAN fabrics until a server profile is created and assigned.
- Server blades must be powered off to receive (or relinquish) a server profile assignment when using Virtual Connect-administered MAC addresses, WWNs, or changing Fibre Channel boot parameters.
- FC SAN Connections are only shown in server profile screens when there is an HP Virtual Connect Fibre Channel Module in the enclosure managed by Virtual Connect. FC SAN Connections are added in pairs and cannot be deleted. If an HP Virtual Connect Fibre Channel Module is added to a Virtual Connect domain that has existing profiles, an option to add FC connections appears in the existing profiles when editing.
- Some server profile SAN boot settings (controller boot order) are only applied by Virtual Connect after the server blade has been booted at least once with the final mezzanine card configuration.
- If PXE, controller boot order, or SAN boot settings are made outside of Virtual Connect (using RBSU or other configuration tools), Virtual Connect will restore the settings defined by the server profile after the server blade completes the next boot cycle.
- If using a QLogic HBA with some versions of Linux (RHEL3, RHEL4, SLES9, and SLES10), the HBA connection type must be set to "point to point only" in the adapter configuration settings in the QLogic BIOS utility or QLogic OS utility (if available). If the HBA settings are not changed, the HBA may be unable to log into the fabric and discover devices on the SAN.

Server profiles are associated with a specific enclosure device bay. After a profile is assigned, the Virtual Connect Manager configures the server blade in that device bay with the appropriate MAC/PXE/WWN/SAN boot settings and connects the appropriate networks and fabrics. Server blades that have been assigned a profile and remain in the same device bay do not require further Virtual Connect Manager configuration during server or enclosure power cycle. They will boot and gain access to the network and fabric when the server and interconnect modules are ready.
If a server blade is inserted into a device bay already assigned a server profile, Virtual Connect Manager automatically updates the configuration of that server blade before it is allowed to power up and connect to the network.

If a server blade is moved from a Virtual Connect managed enclosure to a non-Virtual Connect enclosure, local MAC addresses and WWNs are automatically returned to the original factory defaults. This feature prevents duplicate MAC addresses and WWNs from appearing in the data center because of a server blade redeployment.

**NOTE:** If you are using server factory default MAC addresses WWNs and default Fibre Channel boot parameters, you do not have to power off a server to make any profile changes. If you are using HP assigned or user assigned MAC addresses or WWNs, you must power a server off when moving a profile to the server or away from the server.

Creating server profiles

To create a new server profile, use the `add profile` command:

```plaintext
>add profile MyProfile
```

After an enclosure is imported into a Virtual Connect domain, server blades that have not been assigned a server profile are isolated from all networks to ensure that only properly configured server blades are attached to data center networks.

A server profile can be assigned and defined for each device bay so that the server blade can be powered on and connected to a deployment network. These profiles can then later be modified or replaced by another server profile.

A server profile can also be assigned to an empty bay to allow deployment at a later date.

Adding enet-network connections to a profile

To add a new Ethernet network connection to an existing server profile, use the `add enet-connection` command:

```plaintext
>add enet-connection MyProfile network=MyNetwork pxe=enabled
```

Adding FC fabric connections to a server profile

To add a new FC SAN connection to an existing server profile, use the `add fc-connection` command:

```plaintext
>add fc-connection MyProfile fabric=SAN_5
```

Assigning a server profile to device bay 1

To assign a server profile to a specific device bay, use the `assign profile` command:

```plaintext
>assign profile MyProfile enc0:1
>assign profile MyProfile 1
```

Configuring IGMP settings

To set Ethernet IGMP snooping properties, use the `set igmp` command:

```plaintext
> set igmp enabled=true timeout=30
```
IGMP allows VC-Enet modules to monitor (snoop) the IP multicast membership activities and to configure hardware Layer 2 switching behavior of multicast traffic to optimize network resource usage. Currently only IGMP v1 and v2 (RFC2236) are supported.

The IGMP Snooping idle timeout interval is set to 260 seconds by default. This value is basically the "Group Membership Interval" value as specified by IGMP v2 specification (RFC2236). For optimum network resource usage, set the interval to match the configuration on the customer network’s multicast router settings.

Configuring MAC cache failover settings

- To configure MAC Cache Failover Settings, use the set mac-cache command:
  >set mac-cache enabled=true refresh=10
- To display MAC Cache Failover Settings, use the show mac-cache command:
  >show mac-cache

When a VC-Enet uplink that was previously in standby mode becomes active, it can take several minutes for external Ethernet switches to recognize that the c-Class server blades can now be reached on this newly-active connection. Enabling Fast MAC Cache Failover causes Virtual Connect to transmit Ethernet packets on newly-active links, which enables the external Ethernet switches to identify the new connection (and update their MAC caches appropriately.) This transmission sequence repeats a few times at the MAC refresh interval (5 seconds recommended) and completes in about 1 minute.

**IMPORTANT:** Be sure to set switches to allow MAC addresses to move from one port to another without waiting for an expiration period or causing a lock out.

Logging out of the CLI

To log out of the CLI, use the exit command:

>exit

Common management operations

The following table provides the syntax for the most commonly used management operations.

For detailed information on a particular command, see "Managed elements (on page 9)."

<table>
<thead>
<tr>
<th>Operation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display general domain settings</td>
<td>&gt;show domain</td>
</tr>
<tr>
<td>Display predefined address pools</td>
<td>&gt;show domain addresspool</td>
</tr>
</tbody>
</table>
| Display interconnect modules        | • Summary display  
                                      | >show interconnect     |
|                               | • Detailed display    
                                      | >show interconnect *   |
|                               | • Single module display 
                                      | >show interconnect enc0:2 |
|                               |                        | >show interconnect 4   |
| Display overall domain status     | >show status           |
### Operation | Examples
--- | ---
Display stacking link configuration and status | `>show stackinglink`
Display the system log | `>show systemlog`
Display a list of servers in the domain | - Summary display  
  `>show server`
- Detailed display  
  `>show server *`
- Single server display  
  `>show server enc0:1`
  `>show server 2`
Display server profiles | - Summary display  
  `>show profile`
- Detailed display  
  `>show profile *`
- Single profile display  
  `>show profile MyProfile`
Delete the domain configuration | `>delete domain`
Update interconnect module firmware | `>update firmware url=http://www.mywebserver.com/images/vc-1.20.rom`
Force a failover to the standby VC Manager | `>reset vcm - failover`
Power off server blades | `>poweroff server enc0:2`
  `>poweroff server 3`
  `>poweroff server *`
Power on server blades | `>poweron server enc0:1`
  `>poweron server 2`
  `>poweron server *`
Reset a server blade | `>reboot server enc0:4`
  `>reboot server 6`
  `>reboot server *`
Unassign a server profile from a device bay | `>unassign profile MyProfile`
Modify Ethernet network connection properties | `>set enet-connection MyProfile 1 pxe=disabled`
Modify FC fabric connections | `>set fc-connection MyProfile 2 speed=auto`

### Resetting the Virtual Connect Manager

To reset the Virtual Connect Manager, use the `reset vcm` command:

- `>reset vcm`
- `>reset vcm [-failover]`

Administrator privileges are required for this operation.

If VC Ethernet Modules are installed in I/O bays 1 and 2 of the enclosure, the user can manually change which Virtual Connect Ethernet Module is hosting the Virtual Connect Manager through the use of this feature. The feature can also force the Virtual Connect manager to restart without switching to the
alternate Virtual Connect Ethernet module. This feature can be useful when troubleshooting the Virtual Connect manager. The network and FC processing of the Virtual Connect subsystem is not disturbed during the restart or failover of the Virtual Connect Manager.

If the command line option -failover is included in the reset vcm command and a Virtual Connect Ethernet module is available in the alternate I/O bay (I/O Bays 1 and 2 can host the Virtual Connect Manager), the command line displays the message:

SUCCESS: The Virtual Connect Manager is being reset. Please wait...

The user is logged out of the session after approximately 1 minute. An attempted login to the same Virtual Connect Ethernet Module is rejected with the message:

Virtual Connect Manager not found at this IP address.

If the user attempts to login to the alternate I/O bay, they might receive the error message during the attempted login:

Unable to communicate with the Virtual Connect Manager. Please retry again later.

The login should succeed after the Virtual Connect Manager has restarted on this alternate Virtual Connect Ethernet module. Allow up to 5 minutes, depending on the enclosure configuration.

If the command line option -failover is not included in the reset vcm command or a Virtual Connect Ethernet module is not available in the alternate I/O bay, the command line displays the message:

SUCCESS: The Virtual Connect Manager is being reset. Please wait...

The user is logged out of the session after approximately 1 minute. If the user attempts to re-login they might receive the error message during the attempted login:

Unable to communicate with the Virtual Connect Manager. Please retry again later.

The login should succeed after the Virtual Connect Manager has restarted. Allow up to 5 minutes, depending on the enclosure configuration.
Technical support

Before you contact HP

Be sure to have the following information available before you call HP:

- Technical support registration number (if applicable)
- Product serial number
- Product model name and number
- Product identification number
- Applicable error messages
- Add-on boards or hardware
- Third-party hardware or software
- Operating system type and revision level

HP contact information

For the name of the nearest HP authorized reseller:

- In the United States, see the HP US service locator webpage (http://www.hp.com/service_locator).
- In other locations, see the Contact HP worldwide (in English) webpage (http://welcome.hp.com/country/us/en/wwcontact.html).

For HP technical support:

- In the United States, for contact options see the Contact HP United States webpage (http://welcome.hp.com/country/us/en/contact_us.html). To contact HP by phone:
  - Call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
  - If you have purchased a Care Pack (service upgrade), call 1-800-633-3600. For more information about Care Packs, refer to the HP website (http://www.hp.com).
- In other locations, see the Contact HP worldwide (in English) webpage (http://welcome.hp.com/country/us/en/wwcontact.html).
Acronyms and abbreviations

BIOS
Basic Input/Output System

CLI
Command Line Interface

DHCP
Dynamic Host Configuration Protocol

DNS
domain name system

FC
Fibre Channel

HBA
host bus adapter

I/O
input/output

IGMP
Internet Group Management Protocol

IP
Internet Protocol

iSCSI
Internet Small Computer System Interface

LUN
logical unit number

MAC
Media Access Control
PXE
Preboot Execution Environment

SAN
storage area network

SSH
Secure Shell

VCM
Virtual Connect Manager

WWN
World Wide Name

WWPN
worldwide port name
Index

A
authorized reseller 53

B
basic configuration 40

C
CLI command execution modes 7
command line overview 5
command line syntax 6
common management operations 50
configuring LDAP 43
configuring the Virtual Connect domain 40
configuring, user accounts 41

D
devicebay command 10
domain command 10
domain name 41
domain setup 41

E
enclosure command 12
e-net networks, displaying 45
enet-connection command 13
enet-network connections, adding to a profile 49
enet-network properties, modifying 45
enet-network, creating 45
external-manager command 15

F
fabric command 16
FC fabric connections, adding to a profile 49
FC fabric properties, modifying 47
FC fabrics, displaying 47
fc-connection command 17
Fibre Channel setup 46
firmware command 18

H
help command 34
help resources 53

I
igmp command 19
IGMP settings, configuring 49
interactive user output format 36
interconnect command 19

L
ldap command 20
ldap-group 21
logging in 40
logging out 50

M
MAC address settings 43
MAC cache failover settings, configuring 50
mac-cache command 22
managed elements 9

N
network command 23
network setup 43
network, creating 46

O
options 6
output format 36
overview, command line interface 5

P
parameters 6
port command 29
profile command 24
properties 7
remote access  8
resetting Virtual Connect Manager  51

scriptable output format  38
server command  26
server profile, assigning to a device bay  49
setting the domain name  41
shared uplink port set, creating  45
shared uplink port sets, displaying  46
stackinglink command  28
status command  29
subcommands  9
systemlog command  29

technical support  53

uplink port properties, modifying  45
uplink ports, adding  45
uplink ports, adding to shared uplink port set  46
uplinkport command  29
uplinkset command  31
user command  32

vcm command  34
version command  34