

HyperFlex 延展群集部署指南

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簡介

Hyperflex 擴展群集是帶有地理上分散的節點的單個群集。集群的兩端均充當特定使用者 VM 的主節點。這些 VM 的資料將在其他站點上同步複製。擴展集群使您能夠訪問整個集群，即使其中一個站點完全關閉。通常，這些站點通過它們之間的低延遲、專用高速鏈路連線。

HyperFlex 擴展群集使您可以為需要高正常運行時間（接近零恢復時間目標）且無資料丟失（零恢復點目標）的任務關鍵型工作負載部署主動 — 主動避免災難解決方案。

必要條件

需求

- 群集中的所有節點應屬於相同的 M5 型號（所有 HX220 M5）或 (HX 240 M5)
- stretch 群集中僅支援 M5 節點
- 只有 ESXi HX 平台支援擴展群集
- 每個站點至少應有 2 個節點
- 兩個群集上使用的所有 VLAN 必須相同
- 擴展群集配置需要見證虛擬機器
- 延展式集群需要的 IP 地址數量與六個節點集群所需的 IP 地址數量相同
- 擴展群集僅使用一個 vCenter 例項
- 需要具備 DRS 和 HA 的 vCenter 才能使延展式群集正常工作

採用元件

- HX 安裝程式

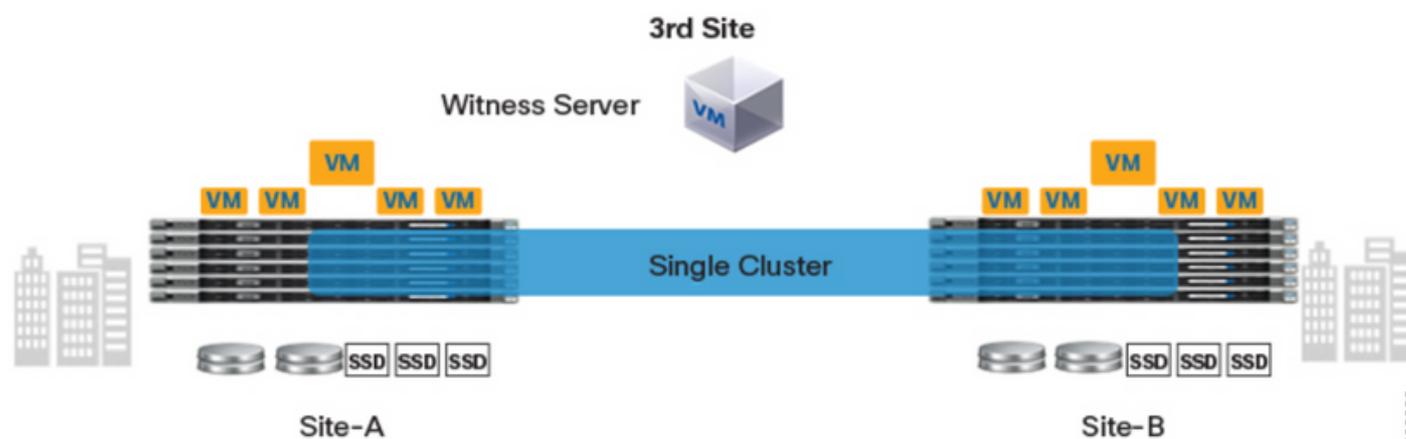
- Cisco HX M5伺服器
- VMWare vCenter
- Cisco UCSM
- VMWare ESXi

其他要求

- [安裝前檢查清單](#)
- [部署見證虛擬機器](#)
- [更改見證虛擬機器密碼](#)

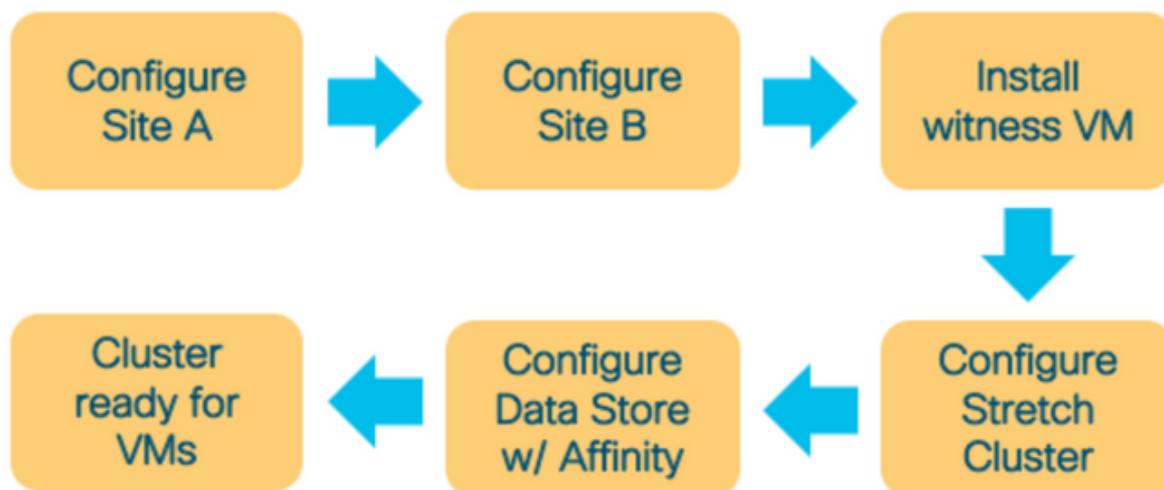
設定

網路圖表



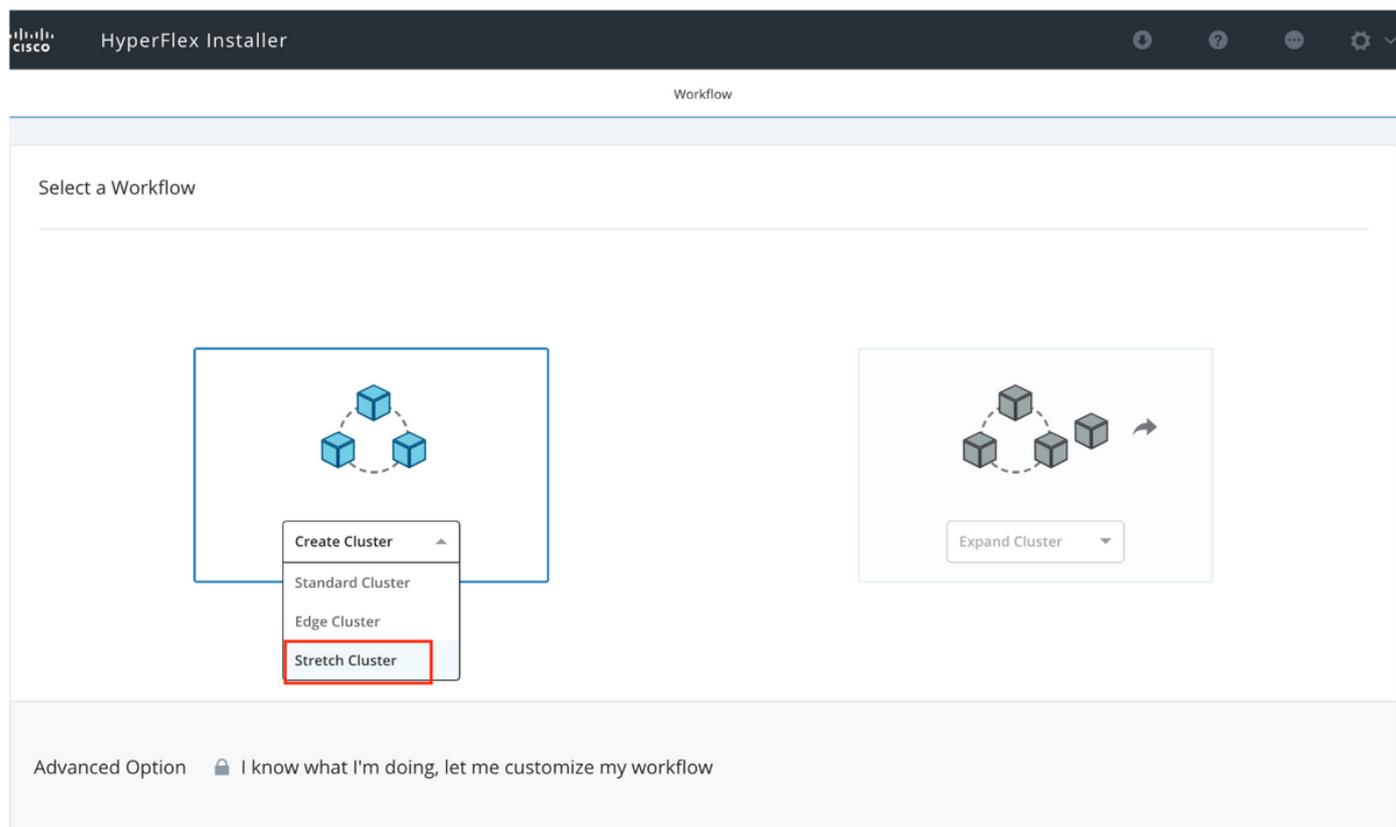
組態

拉伸群集的所有配置都將通過單個HX安裝程式完成。拉伸群集安裝步驟的工作流程如下所示：

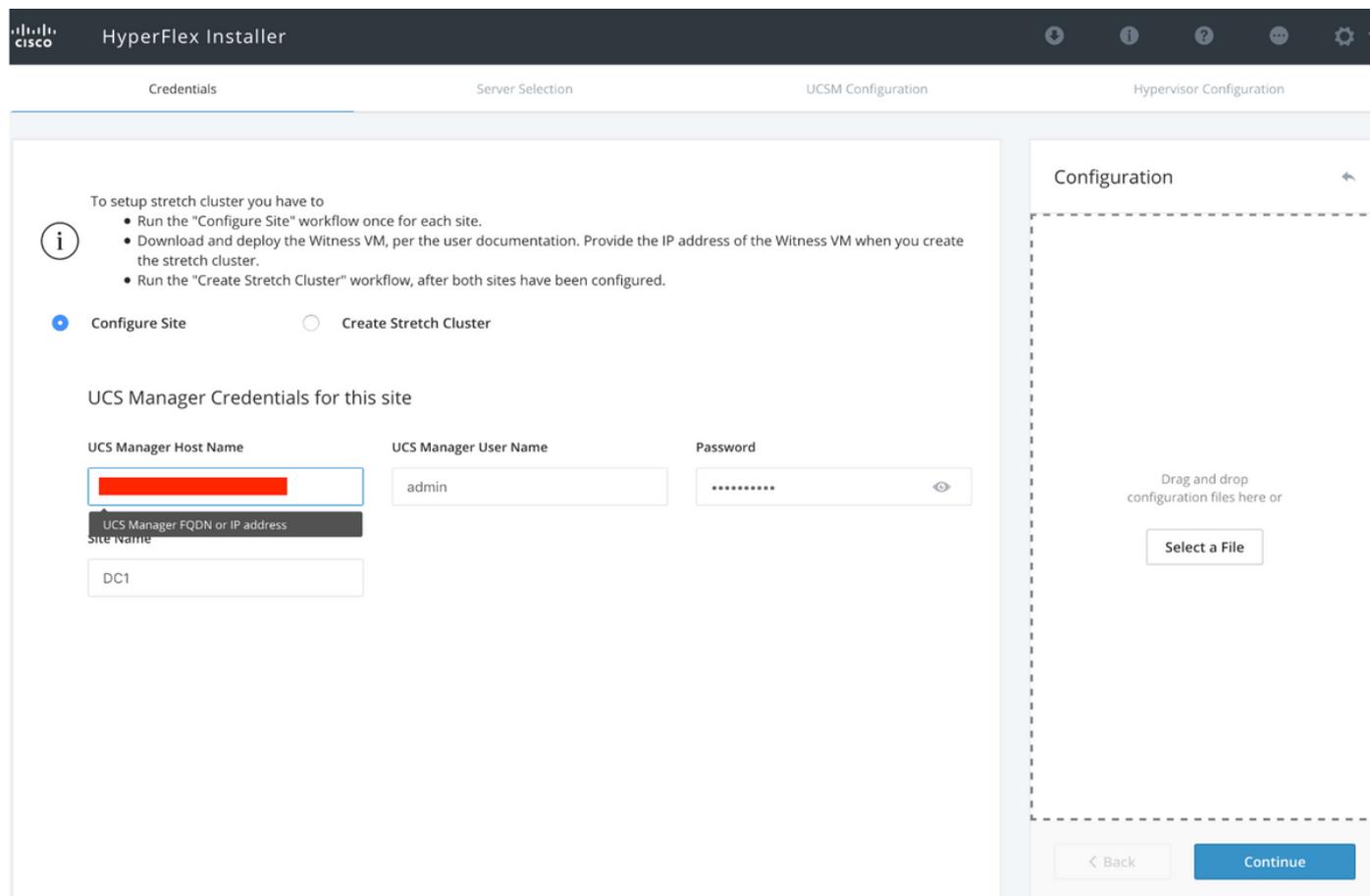


配置站點A

步驟1.登錄到各自分配的HX安裝程式以啟動群集配置。如果安裝程式仍然顯示以前的安裝狀態，請按一下上面欄中的滾輪，然後選擇「重新開始」開始全新安裝。在**Select a Workflow** —> **Create Cluster** —>(select)Stretch Cluster中。



步驟2.在配置站點工作流程中，在站點名稱中輸入UCSM憑證和DC。然後按一下「Continue」。



步驟3.在伺服器選擇中，選擇源伺服器並點選Continue

The screenshot displays the 'HyperFlex Installer' interface at the 'Server Selection' step. The main area contains a table of servers with the following data:

Server Name	Status	Model	Serial	Actions
Server 7	unassociated	HX220C-M5SX	[Redacted]	none
Server 8	unassociated	HX220C-M5SX	[Redacted]	none
Server 9	unassociated	HX220C-M5SX	[Redacted]	none

The right-hand 'Configuration' panel shows the following settings:

- UCS Manager Host Name: [Redacted]
- UCS Manager User Name: admin
- Site Name: DC1

Navigation buttons include '< Back' and 'Continue'.

步驟4.在UCSM配置部分下，輸入VLAN ID和VLAN名稱。在本例中，我們將Inband用於CIMC。按一下「Continue」

HyperFlex Installer

Credentials Server Selection **UCSM Configuration** Hypervisor Configuration

VLAN Configuration

VLAN for Hypervisor and HyperFlex management

VLAN Name: VLAN ID:

VLAN for HyperFlex storage traffic

VLAN Name: VLAN ID:

VLAN for VM vMotion

VLAN Name: VLAN ID:

VLAN for VM Network

VLAN Name: VLAN ID(s):

MAC Pool

MAC Pool Prefix:

'hx' IP Pool for Cisco IMC

IP Blocks: Subnet Mask: Gateway:

Cisco IMC access management (Out of band or Inband)

Out of band In band

VLAN for inband Cisco IMC connectivity

VLAN Name: VLAN ID:

> iSCSI Storage

> FC Storage

Advanced

UCS Server Firmware Version: HyperFlex Cluster Name: Org Name:

Configuration

Credentials

UCS Manager Host Name: dm-j-f1-2.cisco.com
 UCS Manager User Name: admin
 Site Name: DC1
 Admin User name: root

Server Selection

Server 8: ██████████ / HX220C-M55X
 Server 9: ██████████ / HX220C-M55X
 Server 7: ██████████ / HX220C-M55X

UCSM Configuration

VLAN Name: hx-inband-mgmt-Pod-6
 VLAN ID: 222
 VLAN Name: hx-storage-data-Pod-6
 VLAN ID: 3099
 VLAN Name: hx-vmotion-Pod-6
 VLAN ID: 3093
 VLAN Name: vm-network-Pod-6
 VLAN ID(s): 3094
 MAC Pool Prefix: 00:25:85:06
 IP Blocks: ██████████
 Subnet Mask: 255.255.254.0
 Gateway: ██████████
 VLAN Name: hx-inband-cimc-Pod-6
 VLAN ID: 222
 UCS Server Firmware Version: 3.2(3)
 HyperFlex Cluster Name: dm-j-hx-clus-6
 Org Name: HX-POD-6
 iSCSI Storage: false
 VLAN A Name: hx-ext-storage-iscsi-a
 VLAN B Name: hx-ext-storage-iscsi-b
 FC Storage: false
 WWN Pool: 20:00:00:25:85:
 VSAN A Name: hx-ext-storage-fc-a
 VSAN B Name: hx-ext-storage-fc-b

步驟5.在「虛擬機器監控程式配置」部分提供所有請求的資訊。然後按一下**Configure Site**以開始站點配置。

HyperFlex Installer

Credentials Server Selection **UCSM Configuration** Hypervisor Configuration

VLAN Configuration

VLAN for Hypervisor and HyperFlex management

VLAN Name: VLAN ID:

VLAN for HyperFlex storage traffic

VLAN Name: VLAN ID:

VLAN for VM vMotion

VLAN Name: VLAN ID:

VLAN for VM Network

VLAN Name: VLAN ID(s):

MAC Pool

MAC Pool Prefix:

'hx' IP Pool for Cisco IMC

IP Blocks: Subnet Mask: Gateway:

Cisco IMC access management (Out of band or Inband)

Out of band In band

VLAN for inband Cisco IMC connectivity

VLAN Name: VLAN ID:

> iSCSI Storage

> FC Storage

Advanced

UCS Server Firmware Version: HyperFlex Cluster Name: Org Name:

Configuration

Credentials

UCS Manager Host Name: [Redacted]
 UCS Manager User Name: admin
 Site Name: DC1
 Admin User name: root

Server Selection

Server 8: [Redacted] / HX220C-M55X
 Server 9: [Redacted] / HX220C-M55X
 Server 7: [Redacted] / HX220C-M55X

UCSM Configuration

VLAN Name: hx-inband-mgmt-Pod-6
 VLAN ID: 222
 VLAN Name: hx-storage-data-Pod-6
 VLAN ID: 3099
 VLAN Name: hx-vmotion-Pod-6
 VLAN ID: 3093
 VLAN Name: vm-network-Pod-6
 VLAN ID(s): 3094
 MAC Pool Prefix: 00:25:85:06
 IP Blocks: [Redacted]
 Subnet Mask: 255.255.254.0
 Gateway: [Redacted]
 VLAN Name: hx-inband-cimc-Pod-6
 VLAN ID: 222
 UCS Server Firmware Version: 3.2(3)
 HyperFlex Cluster Name: dm-j-hx-clus-6
 Org Name: HX-POD-6
 iSCSI Storage: false
 VLAN A Name: hx-ext-storage-iscsi-a
 VLAN B Name: hx-ext-storage-iscsi-b
 FC Storage: false
 WWN Pool: 20:00:00:25:85:
 VSAN A Name: hx-ext-storage-fc-a
 VSAN B Name: hx-ext-storage-fc-b

步驟6. 確認站點A 虛擬機器監控程式配置成功。

The screenshot shows the progress bar with five steps: Start, Config Installer, Validations, UCSM Configuration, and Hypervisor Configuration. The 'Hypervisor Configuration' step is marked with a green checkmark and is highlighted by a red rectangular box. Below the progress bar, a message box displays a green checkmark followed by the text 'Hypervisor Configuration Successful'. Further down, a detailed view of the 'Hypervisor Configuration' step is shown, with a 'Succeeded' status and a list of completed tasks:

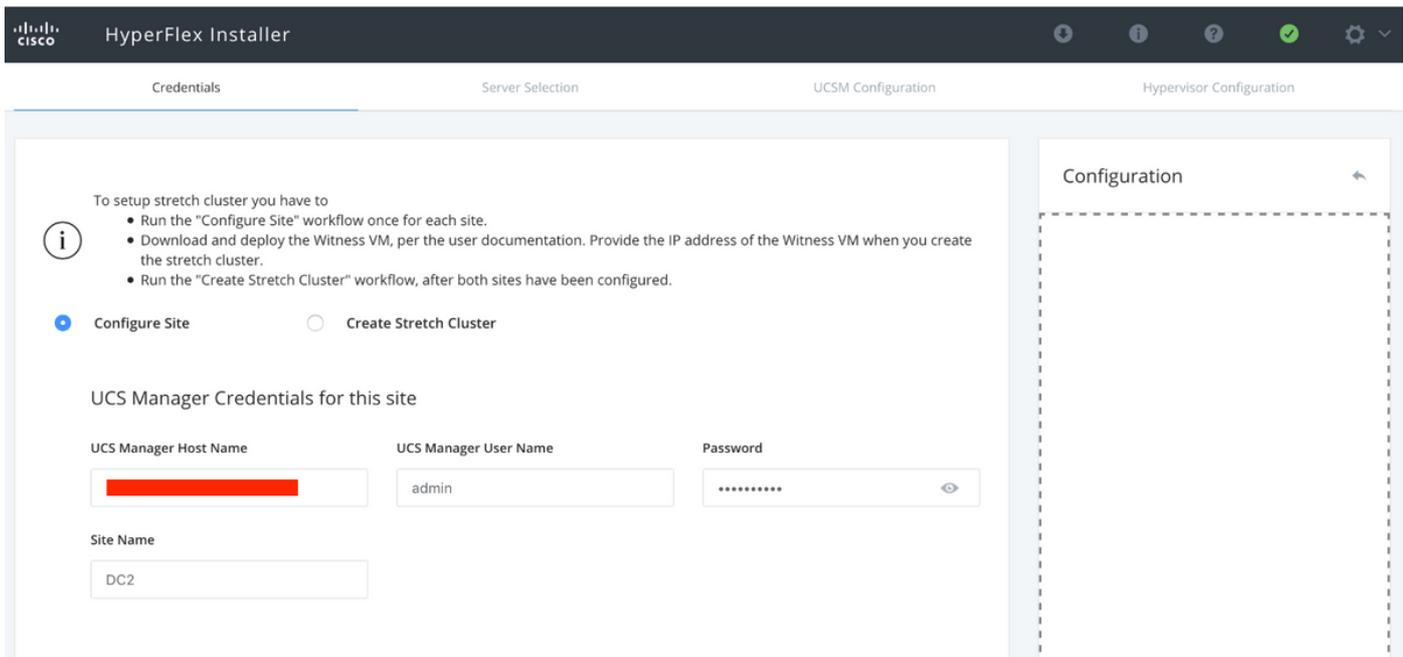
- ✓ Login to UCS API
- ✓ Configuring static ip on the specified ESXi servers
- ✓ Configuring static ip on a ESXi server
- ✓ Login to ESXi through SoL with user specified username and password
- ✓ Logout from UCS API
- ✓ CONFIGURATION COMPLETED SUCCESSFULLY

配置站點B

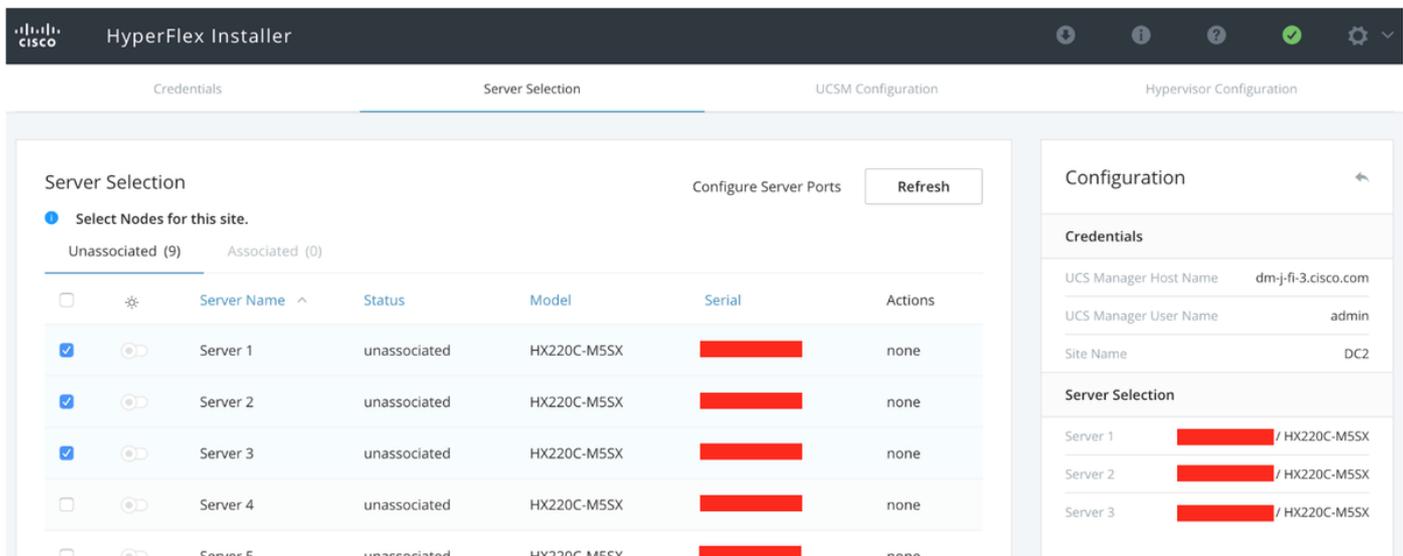
步驟1. 按一下 **wheel**，然後選擇 **Configure Site** 以開始 **Site B** 配置，如下所示。

The screenshot shows the HyperFlex Installer interface with the progress bar at the top. On the right side, there is a 'Configuration' menu with three options: 'Configure Site', 'Create Stretch Cluster', and 'Log Out (root)'. The 'Configure Site' option is highlighted with a red rectangular box. The progress bar below shows all five steps completed with green checkmarks.

步驟2. 在 **Configure Site** 工作流程中，在 **Site Name** 中輸入 **Target UCSM credentials** 和 **Target DC**。然後按一下「**Continue**」。



步驟3.在伺服器選擇中，選擇源伺服器並點選Continue



步驟4.在UCSM配置部分下，輸入VLAN ID和VLAN名稱。在本例中，我們將Inband用於CIMC。按一下「Continue」

HyperFlex Installer

Credentials Server Selection **UCSM Configuration** Hypervisor Configuration

VLAN Configuration

VLAN for Hypervisor and HyperFlex management

VLAN Name: VLAN ID:

VLAN for HyperFlex storage traffic

VLAN Name: VLAN ID:

VLAN for VM vMotion

VLAN Name: VLAN ID:

VLAN for VM Network

VLAN Name: VLAN ID(s):

MAC Pool

MAC Pool Prefix:

'hx' IP Pool for Cisco IMC

IP Blocks: Subnet Mask: Gateway:

Cisco IMC access management (Out of band or Inband)

Out of band In band

VLAN for inband Cisco IMC connectivity

VLAN Name: VLAN ID:

> iSCSI Storage

> FC Storage

Advanced

UCS Server Firmware Version: HyperFlex Cluster Name: Org Name:

Configuration

Credentials

UCS Manager Host Name:

UCS Manager User Name:

Site Name:

Server Selection

Server 1: / HX220C-M55X

Server 2: / HX220C-M55X

Server 3: / HX220C-M55X

步驟5.在「虛擬機器監控程式配置」部分提供所有請求的資訊。然後按一下**Configure Site**以開始站點配置。

HyperFlex Installer

Credentials Server Selection UCSM Configuration Hypervisor Configuration

Configure common Hypervisor Settings

Subnet Mask: 255.255.254.0 Gateway: [REDACTED] DNS Server(s): [REDACTED]

Hypervisor Settings

Make IP Addresses and Hostnames Sequential

#	Name	Serial	Static IP Address	Hostname
1	Server 1	[REDACTED]	[REDACTED]	dm-j-hx-21
2	Server 2	[REDACTED]	[REDACTED]	dm-j-hx-22
3	Server 3	[REDACTED]	[REDACTED]	dm-j-hx-23

Hypervisor Credentials

Admin User name: root Hypervisor Password: [REDACTED]

Configuration

Credentials

- UCS Manager Host Name: [REDACTED]
- UCS Manager User Name: admin
- Site Name: DC2
- Admin User name: root

Server Selection

- Server 1: [REDACTED] / HX220C-M5SX
- Server 2: [REDACTED] / HX220C-M5SX
- Server 3: [REDACTED] / HX220C-M5SX

UCSM Configuration

- VLAN Name: hx-inband-mgmt, VLAN ID: 222
- VLAN Name: hx-storage-data, VLAN ID: 3099
- VLAN Name: hx-vmotion, VLAN ID: 3093
- VLAN Name: vm-network, VLAN ID(s): 3094
- MAC Pool Prefix: 00:25:B5:07
- IP Blocks: [REDACTED]
- Subnet Mask: 255.255.254.0
- Gateway: [REDACTED]
- VLAN Name: hx-inband-cimc-Pod-7, VLAN ID: 222
- UCS Server Firmware Version: 3.2(3h)

[← Back](#) [Configure Site](#)

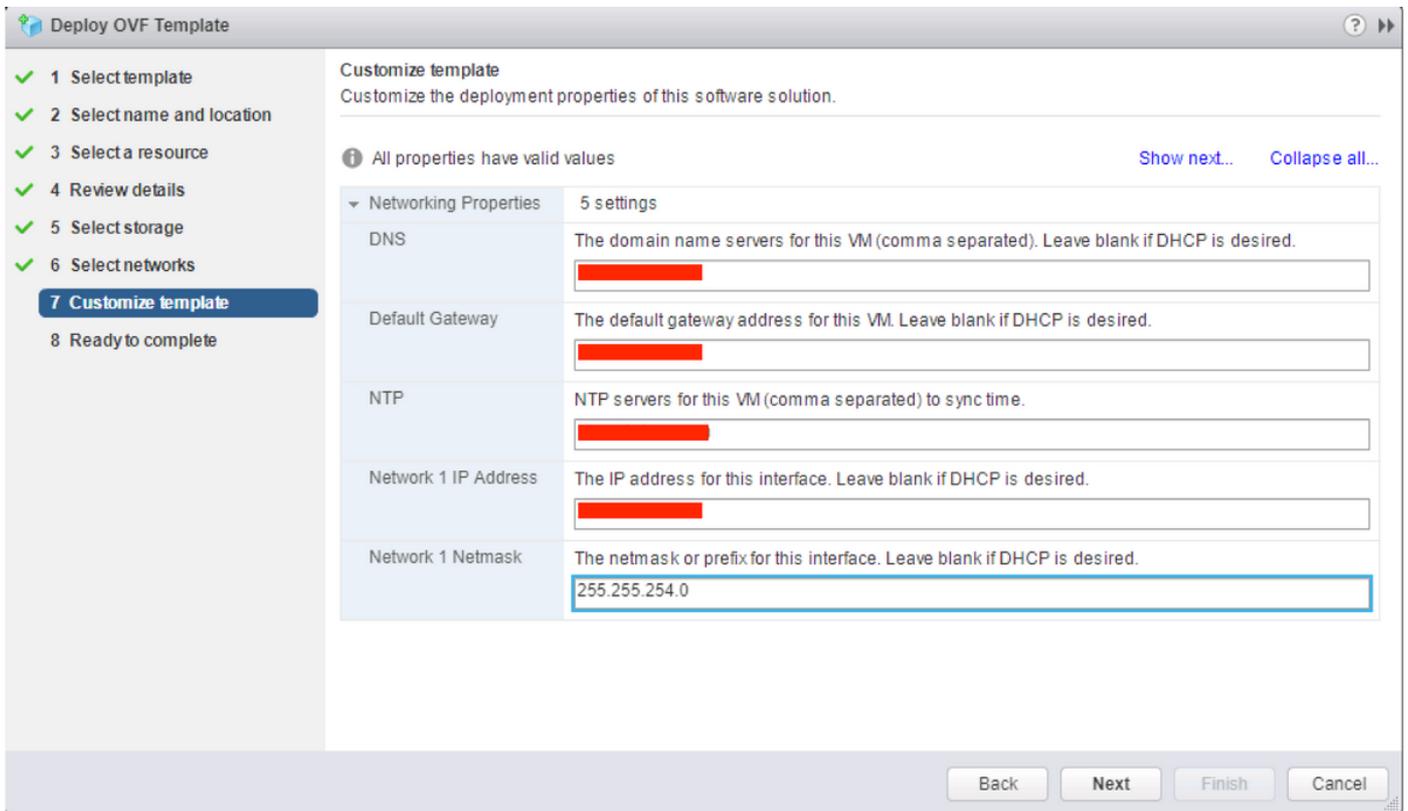
步驟6. 確認站點B 虛擬機器監控程式配置成功。

The progress bar shows five steps: Start, Config Installer, Validations, UCSM Configuration, and Hypervisor Configuration. All steps are marked with a green checkmark, indicating successful completion. Below the progress bar, a red-bordered box highlights the message: **✓ Hypervisor Configuration Successful**. The configuration summary for 'Hypervisor Configuration' is as follows:

Hypervisor Configuration - Overall	
Succeeded	✓ Login to UCS API
	✓ Configuring static ip on the specified ESXi servers
	✓ Configuring static ip on a ESXi server
	✓ Login to ESXi through SoL with user specified username and password
	✓ Logout from UCS API
	✓ CONFIGURATION COMPLETED SUCCESSFULLY

HX見證虛擬機器部署

- 這是進一步進行之前的重要步驟。HX見證VM需要啟動並運行且可訪問，安裝才能成功。
- 需要在ESXi主機上部署OVA映像。
- 請測試到此VM的連線，並確保登入正常工作。
- 請參閱下面的OVA安裝屬性。



建立延伸群集

步驟1.

- 要開始配置拉伸群集，請導航到安裝程式上的Wheel並選擇**建立拉伸群集**以開始拉伸群集配置。
- 在憑據螢幕中，提供源（站點A）和目標（站點B）UCSM及其憑據、站點名稱、UCSM組織名稱、vCenter和Hypervisor憑據。按一下Continue以進入Server Selection螢幕。

HyperFlex Installer

Credentials Server Selection IP Addresses Cluster Configuration

Configuration

To setup stretch cluster you have to

- Run the "Configure Site" workflow once for each site.
- Download and deploy the Witness VM, per the user documentation. Provide the IP address of the Witness VM when you create the stretch cluster.
- Run the "Create Stretch Cluster" workflow, after both sites have been configured.

Configure Site Create Stretch Cluster

UCS Manager Credentials for Site 1

UCS Manager Host Name: [Redacted] User Name: admin Password: [Redacted]

Site Name: DC1 Org Name: HX-POD-6

UCS Manager Credentials for Site 2

UCS Manager Host Name: [Redacted] User Name: admin Password: [Redacted]

Site Name: DC2 Org Name: HX-POD-7

vCenter Credentials

vCenter Server: [Redacted] User Name: administrator@vsphere.local Admin Password: [Redacted]

Hypervisor Credentials

Admin User name: root

The hypervisor on this node uses the factory default password

Hypervisor Password: [Redacted]

Drag and drop configuration files here or
[Select a File](#)

< Back Continue

步驟2. 確保所有伺服器（源伺服器和目標伺服器）均顯示為選定狀態。然後按一下 **繼續**，

HyperFlex Installer

Credentials Server Selection IP Addresses Cluster Configuration

Server Selection Configure Server Ports Refresh

Select Nodes for this site.

Associated (6)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server Name	Site	Status	Model	Serial	Service Profile	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 8	DC1	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-6/ls-rack-unit-8	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 9	DC1	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-6/ls-rack-unit-9	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 7	DC1	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-6/ls-rack-unit-7	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 2	DC2	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-7/ls-rack-unit-2	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 3	DC2	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-7/ls-rack-unit-3	Actions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Server 1	DC2	ok	HX220C-M5SX	[REDACTED]	org-root/org-HX-POD-7/ls-rack-unit-1	Actions

Configuration

Credentials

UCS Manager Host Name 1 [REDACTED]

User Name admin

UCS Manager Host Name 2 [REDACTED]

User Name admin

Site Name DC1

Org Name 1 HX-POD-6

Site Name DC2

Org Name 2 HX-POD-7

vCenter Server [REDACTED]

User Name administrator@vsphere.local

Admin User name root

步驟3.在「IP地址」部分中，提供Hypervisor和Storage controller mgmt (公共可路由) IP以及它們的DATA (專用非可路由) IP。此外，還要為管理和資料網路提供集群IP。按一下「Continue」(繼續)。

HyperFlex Installer

Credentials Server Selection IP Addresses Cluster Configuration

IP Addresses

Make IP Addresses Sequential

ID	Name	Site	Management - VLAN		Data - VLAN (FQDN or IP Address)	
			Hypervisor	Storage Controller	Hypervisor	Storage Controller
Server 9	DC1	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	
Server 8	DC1	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	
Server 7	DC1	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	
Server 3	DC2	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	
Server 2	DC2	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	
Server 1	DC2	[Redacted]	[Redacted]	192.168.[Redacted]	92.168.[Redacted]	

	Management	Data
Cluster IP Address	[Redacted]	192.168.[Redacted]
Subnet Mask	255.255.254.0	255.255.255.0
Gateway	[Redacted]	
Witness IP	[Redacted]	

Configuration

Credentials

UCS Manager Host Name 1 [Redacted]
User Name: admin

UCS Manager Host Name 2 [Redacted]
User Name: admin

Site Name: DC1
Org Name 1: HX-POD-6
Site Name: DC2
Org Name 2: HX-POD-7

vCenter Server [Redacted]
User Name: administrator@vsphere.local
Admin User name: root

Server Selection

Server 2 [Redacted] / HX220C-M5SX
Server 3 [Redacted] / HX220C-M5SX
Server 1 [Redacted] / HX220C-M5SX
Server 8 [Redacted] / HX220C-M5SX
Server 9 [Redacted] / HX220C-M5SX
Server 7 [Redacted] / HX220C-M5SX

步驟4.在Cluster Configuration下，輸入Controller VM密碼、vCenter configuration details和system services details。在Advanced Networking一節中，為兩個站點配置相同的Management和Data VLAN。然後按一下Start開始群集配置。

Progress
Summary

✓
Cluster Creation Successful
View Summary >

Cluster Creation ▾

Cluster Creation - Overall

Succeeded

- ✓ Preparing Storage Cluster
- ✓ Configuring Cluster Resource Manager
- ✓ updateClusterSEDstatus

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

192.168. [redacted]

In Progress

- ✓ Configuring NTP Services

Configuration

Credentials

UCS Manager Host Name 1 [redacted]

User Name admin

UCS Manager Host Name 2 [redacted]

User Name admin

Site Name DC1

Org Name 1 HX-POD-6

Site Name DC2

Org Name 2 HX-POD-7

vCenter Server [redacted]

User Name administrator@vsphere.local

Admin User name root

Server Selection

Server 2 [redacted] / HX220C-M5SX

Server 3 [redacted] / HX220C-M5SX

Server 1 [redacted] / HX220C-M5SX

Server 8 [redacted] / HX220C-M5SX

Server 9 [redacted] / HX220C-M5SX

Server 7 [redacted] / HX220C-M5SX

IP Addresses

Cluster Name dm-j-stretch-1

Management Cluster [redacted]

Data Cluster 192.168. [redacted]

Management Subnet Mask 255.255.254.0

Data Subnet Mask 255.255.255.0

Management Gateway [redacted]

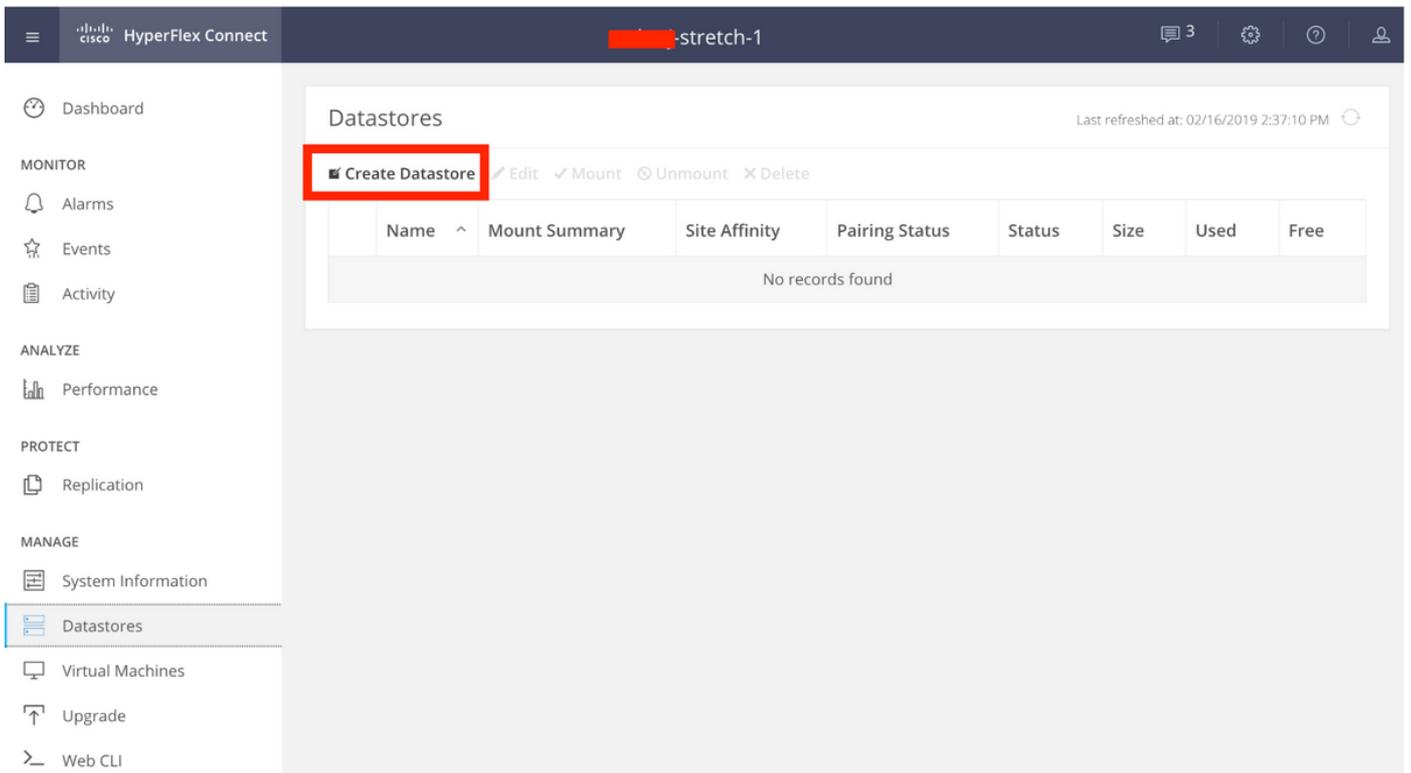
Witness IP [redacted]

Server 9 (WZP22370075)

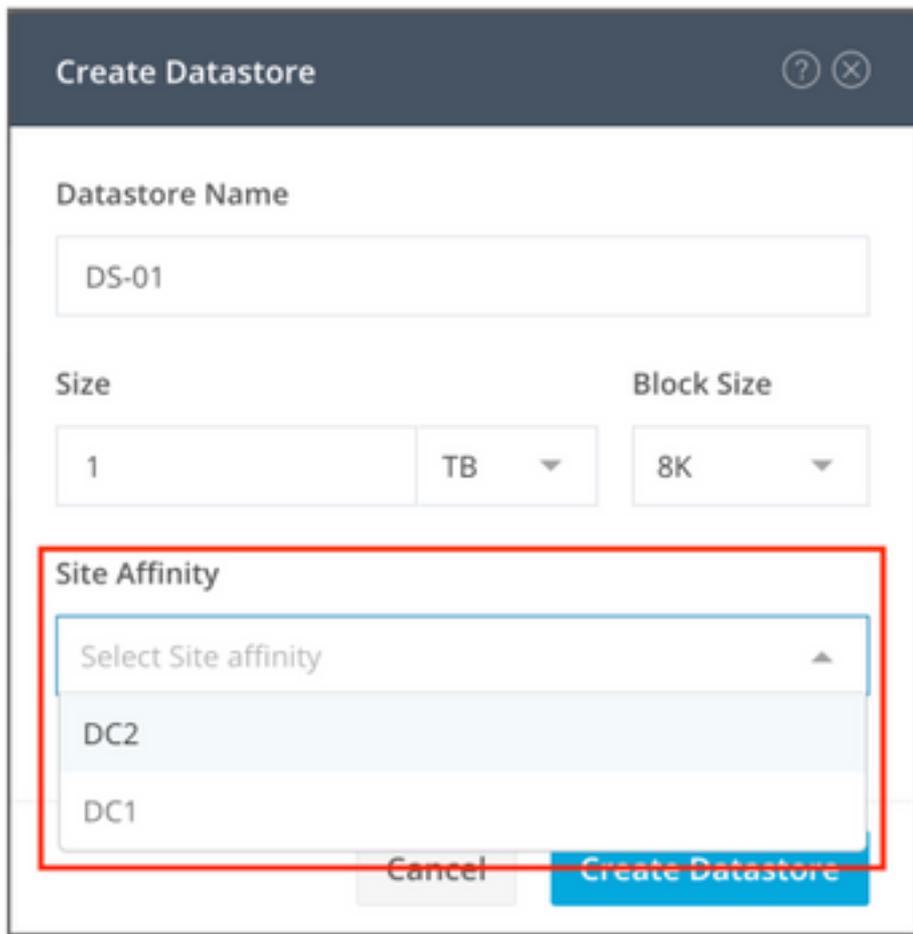
驗證

資料儲存庫建立

步驟1.在延伸群集上建立datastore類似於在普通群集上建立datastore。唯一的區別是，在拉伸群集中建立datastore時定義站點關聯。在Hyperflex Connect UI中導航到Datastore，然後點選Create Datastore



步驟2. 創建資料儲存並選擇其大小。然後，在附加步驟中，在Site Affinity下拉選單下選擇這兩個站點之一。然後按一下Create Datastore



步驟3. 確認新建立的datastore的狀態，該狀態顯示為MOUNTED，並且還顯示其站點關聯。

Datastores

Last refreshed at: 02/16/2019 2:41:02 PM 

Create Datastore  Edit  Mount  Unmount  Delete



Filter

	Name ^	Mount Summary	Site Affinity	Pairing Status	Status	Size	Used	Free
<input type="checkbox"/>	DS-01	MOUNTED	DC1	Unpaired	Normal	1 TB	0 B	1 TB

Showing 1 - 1 of 1