使用HTTP伺服器重新映像Cisco Nexus儀表板節點的過程

目錄

簡介

本文介紹使用HTTP伺服器重新映像Cisco Nexus儀表板節點的步驟，提供清晰的逐步指導，確保通過遠端HTTP託管映像部署進行標準化和高效的節點重新映像。

必要條件

1. 必須使用OOB IP地址配置Cisco整合管理控制器(CIMC)。
2. 檢查Nexus Dashboard Release（Nexus控制面板版本）說明，並確認需要重新映像的Nexus控制面板軟體映像。
3. 從software.cisco.com獲取軟體映像。
4. 確認映像的MD5總和檢查碼與Cisco.com上發佈的校驗碼匹配。
5. 在HTTP伺服器上上傳Nexus儀表板映像。
6. 必須可以從CIMC管理介面訪問HTTP伺服器。可以使用CIMC GUI或CLI驗證此連通性。

採用元件

本文件所述內容不限於特定軟體和硬體版本。
本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

背景資訊

當Cisco Nexus Dashboard節點由於系統損壞、不支援的更新或無法訪問的GUI而發生故障時，管理員可以使用HTTP伺服器上託管的ISO重新映像該節點。該過程包括下載Nexus Dashboard ISO，將

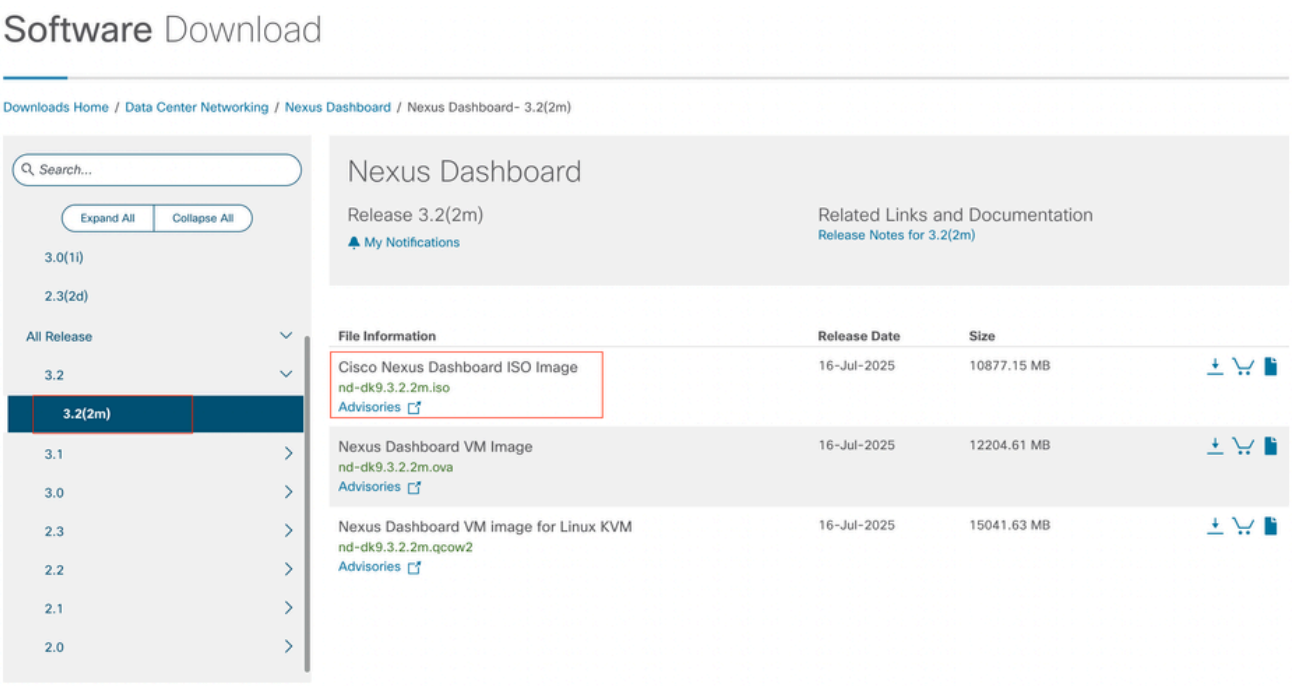
其託管在Web伺服器上，並使用CIMC（思科整合管理控制器）通過HTTP對映和引導ISO。這可實現高效的遠端節點恢復或重新安裝，作為群集恢復的一部分。

解決方案

要通過HTTP伺服器執行ND重新映像，需要執行以下步驟：

步驟1.從思科網站下載韌體。
開啟software.cisco.com/download。

步驟2.訪問Nexus Dashboard介面並從可用版本選項中選擇適當的軟體版本(例如3.2(2m))。
舉例來說：



步驟3.將Nexus Dashboard軟體ISO映像複製到HTTP伺服器。

示例： http://x.x.x.x/iso/

步驟4.通過SSH/控制檯連線到思科整合管理控制器。

- 從終端視窗登入到CIMC控制檯。

```
# ssh admin@cimc_ip
```

其中cimc_ip是CIMC IP地址。

舉例來說：

```
# ssh admin@x.x.x.x
admin@x.x.x.x's password:
system#
```

- 將範圍更改為虛擬介質：

<#root>

```
system# scope vmedia
```

```
system /vmedia #
```

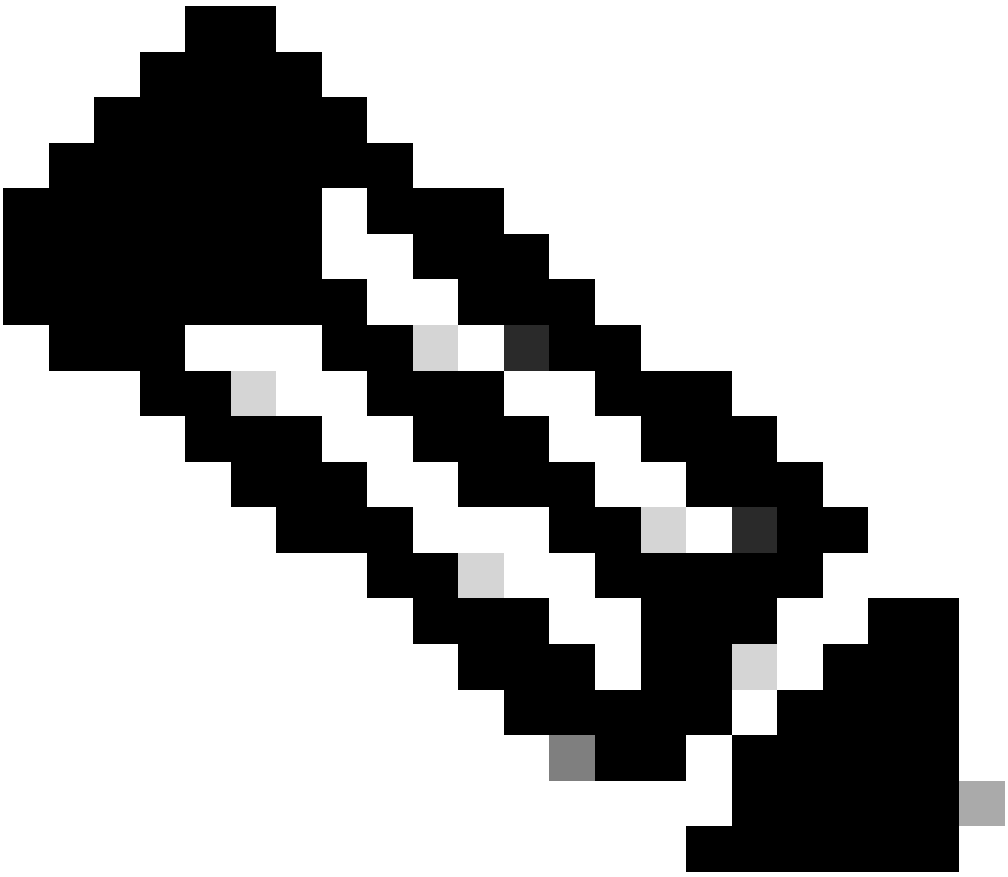
- 將.iso映像對映到HTTP伺服器。

<#root>

```
system /vmedia # map-www volume_name http://http_server_ip_and_path iso_file_name
```

其中：

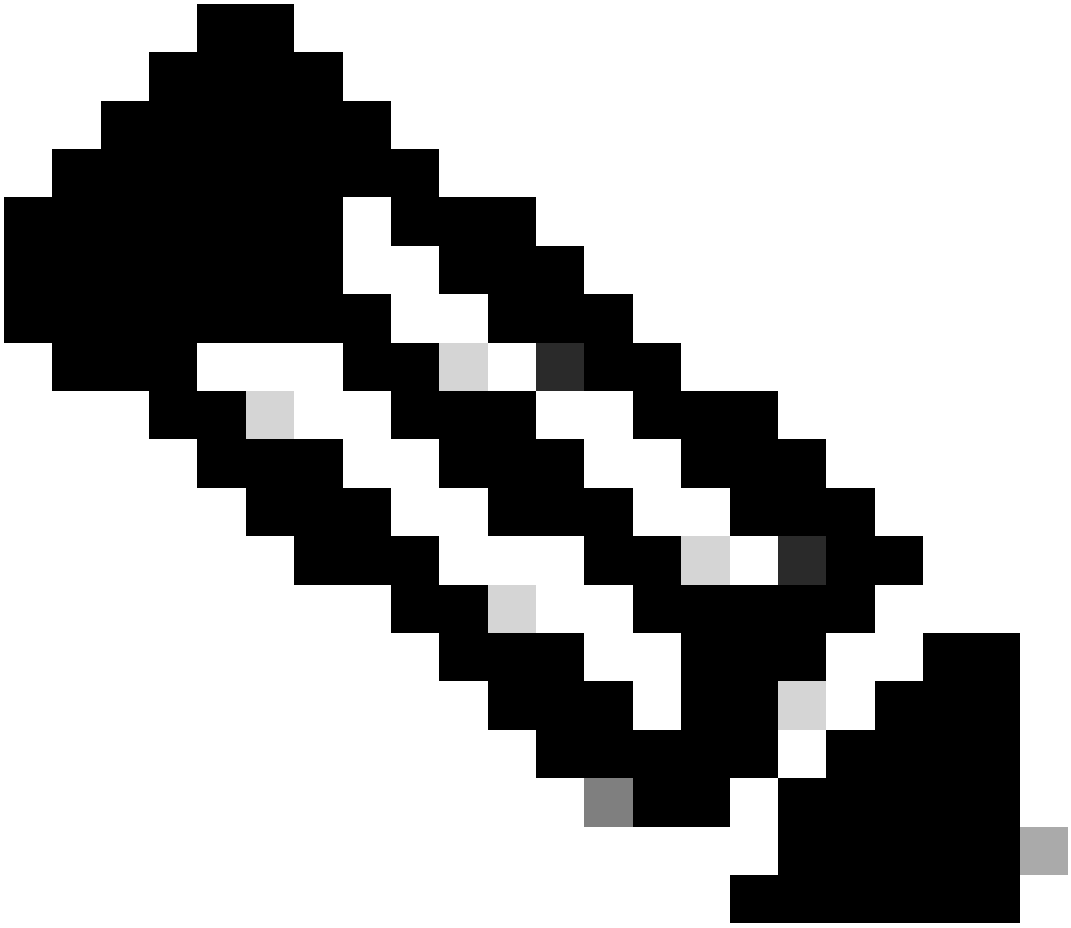
- volume_name是卷的名稱。
- http_server_ip_and_path是HTTP伺服器的IP地址和.iso檔案位置的路徑。
- iso_filename是.iso檔案的名稱。



附註：http_server_ip_and_path與iso_filename之間存在空格。

舉例來說：

```
system /vmedia # map-www apic http://x.x.x.x/iso/ nd-dk9.3.2.2m.iso
Server username: admin
Server password:
Confirm password:
```



附註：輸入憑證並按Enter鍵。

- 檢查對映狀態：

<#root>

```
 system /vmedia #
show mappings detail
```

The Map-Status must be shown as OK.

For Example:

```
system /vmedia #
show mappings detail
```

```
Volume apic:
    Map-Status: OK
    Drive-Type: CD
    Remote-Share: http://x.x.x.x/iso/

    Remote-File:nd-dk9.3.2.2m.iso
    Mount-Type: www
    Mount-Options: noauto,username=admin,password=********3
    system /vmedia #
```

如果對映失敗或在對映過程中出現錯誤，可以使用unmap命令刪除現有對映，然後再次嘗試對映。

```
Server # scope vmedia
Server /vmedia # show mappings
Volume  Map-status   Drive-type     remote-share        remote-file                mount-type
------  ----------  ------------  ------------------ -------------------        -----------
Huu     OK           removable    http://x.x.x.x/ rhel-server-6.1-x86_6.iso      www
Server /vmedia # unmap Huu
Server /vmedia # show mappings
Volume  Map-status   Drive-type     remote-share        remote-file                mount-type
------  ----------  ------------  ------------------ -------------------        -----------
```

- 連線到SOL以監控安裝過程：

<#root>

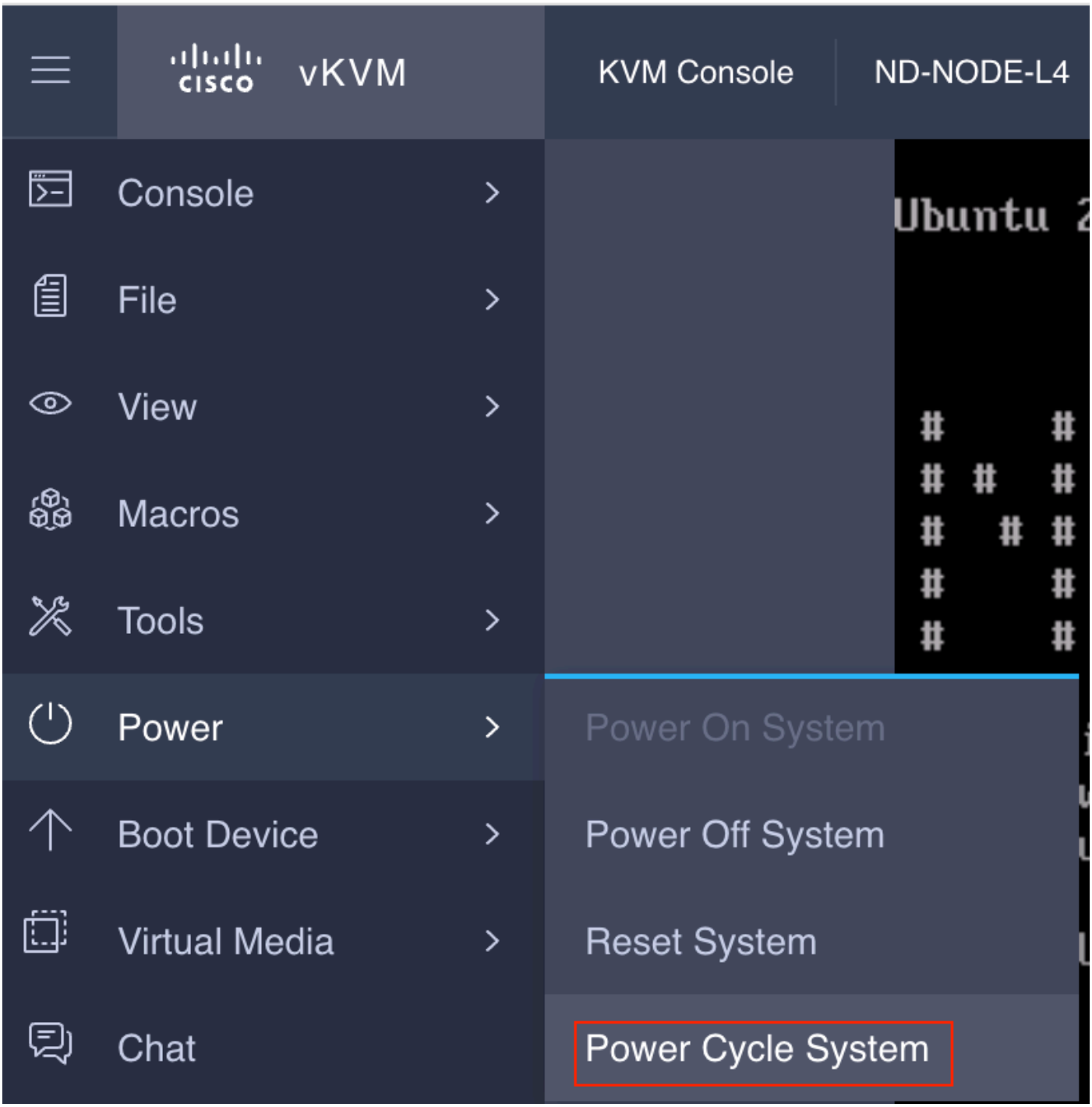
```
system /vmedia #
```

connect host

```
CISCO Serial Over LAN:
Press Ctrl+x to Exit the session
```

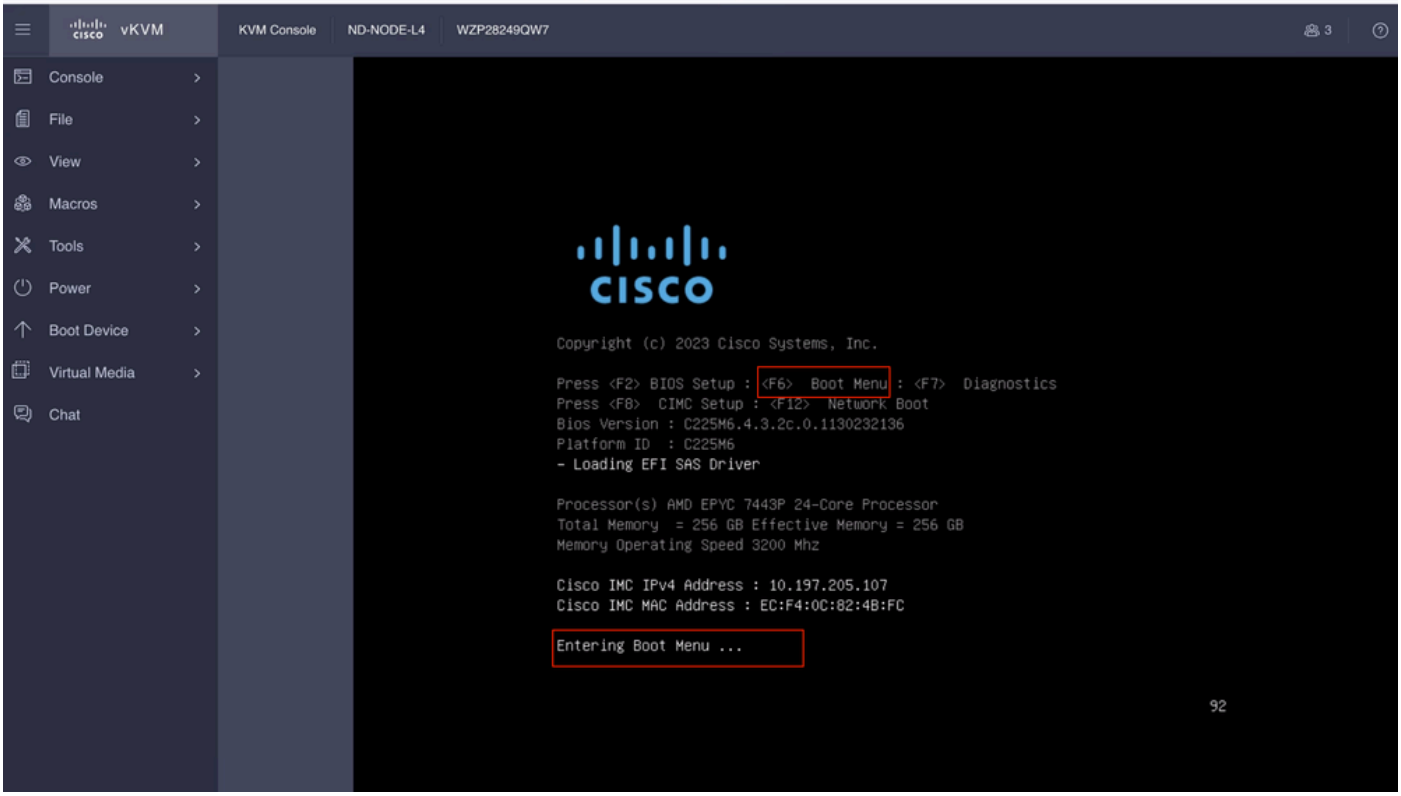
步驟5.從CIMC GUI的KVM控制檯重新通電。

```
Choose Power > Power Cycle System (cold boot) to power cycle the controller.
```

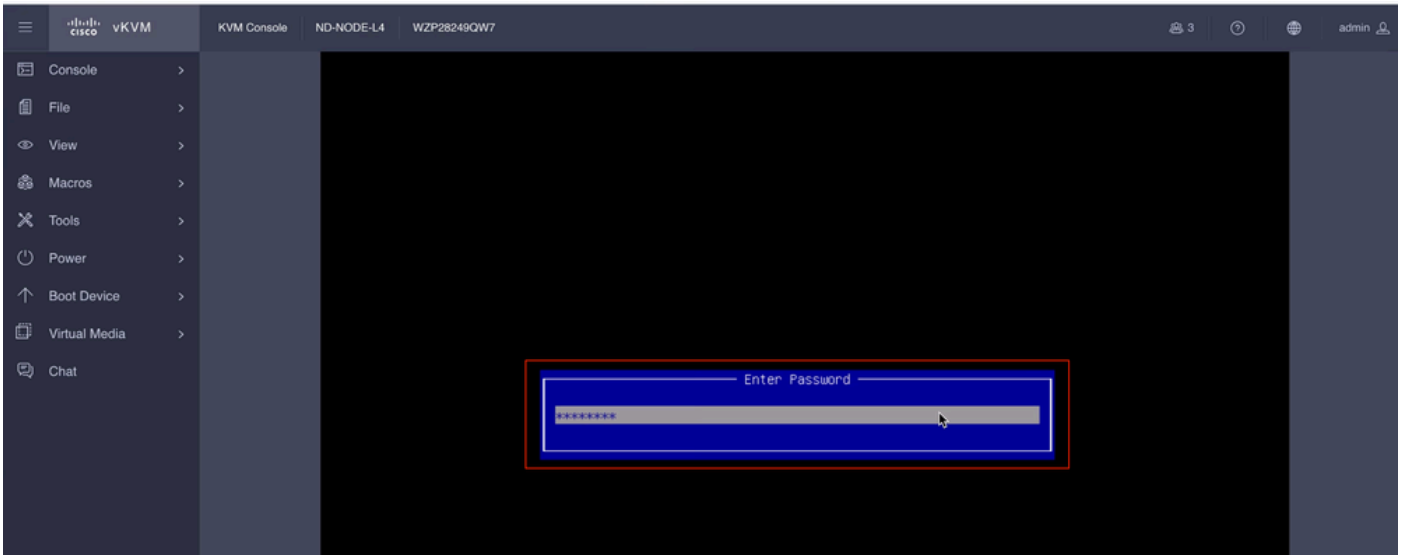


在SOL控制檯上：在引導過程中觀看螢幕，並準備在適當的時間按F6鍵以進入引導選擇選單。

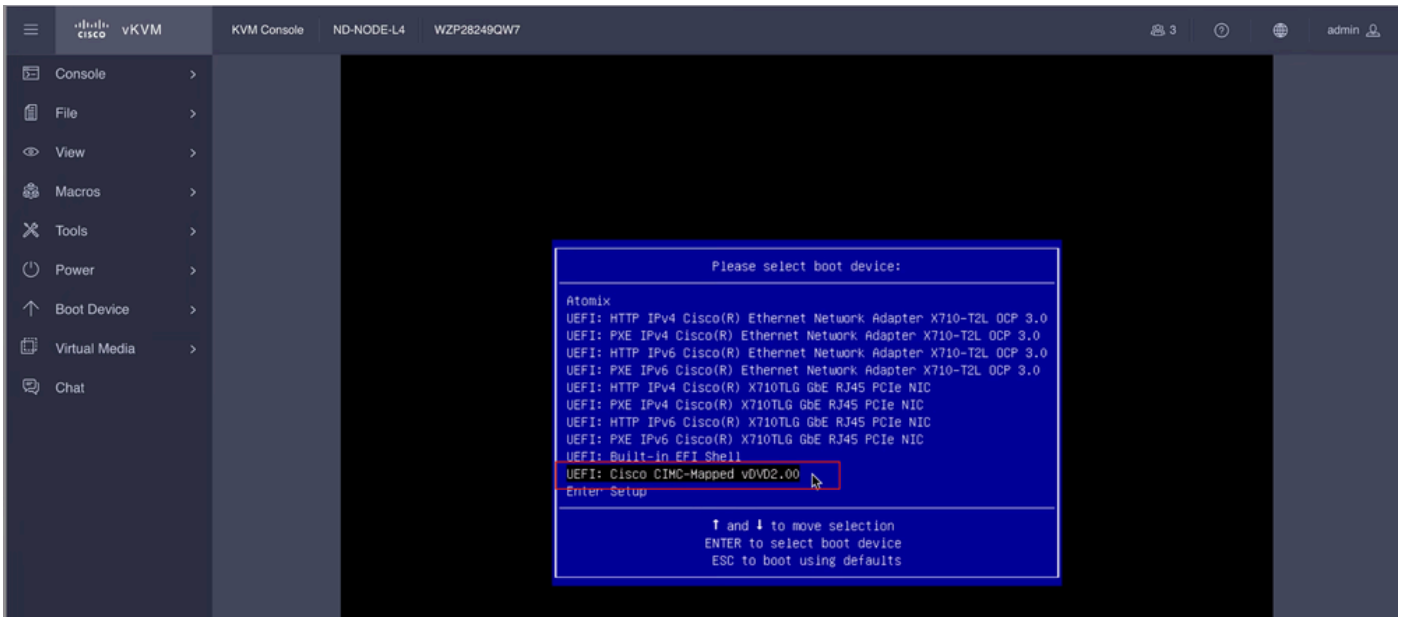
舉例來說：



您還必須輸入BIOS密碼。預設密碼為password。



在啟動選擇選單中，選擇Cisco CIMC對映的vDVD2.00選項作為一次性啟動裝置。



步驟6.返回CIMC CLI並監控Connect Host的輸出。
監控CIMC cli ，當收到以下消息時：要加速安裝，請在接下來的10分鐘內輸入iso url，然後輸入帶有Nexus控制面板映像的http伺服器URL。

<#root>

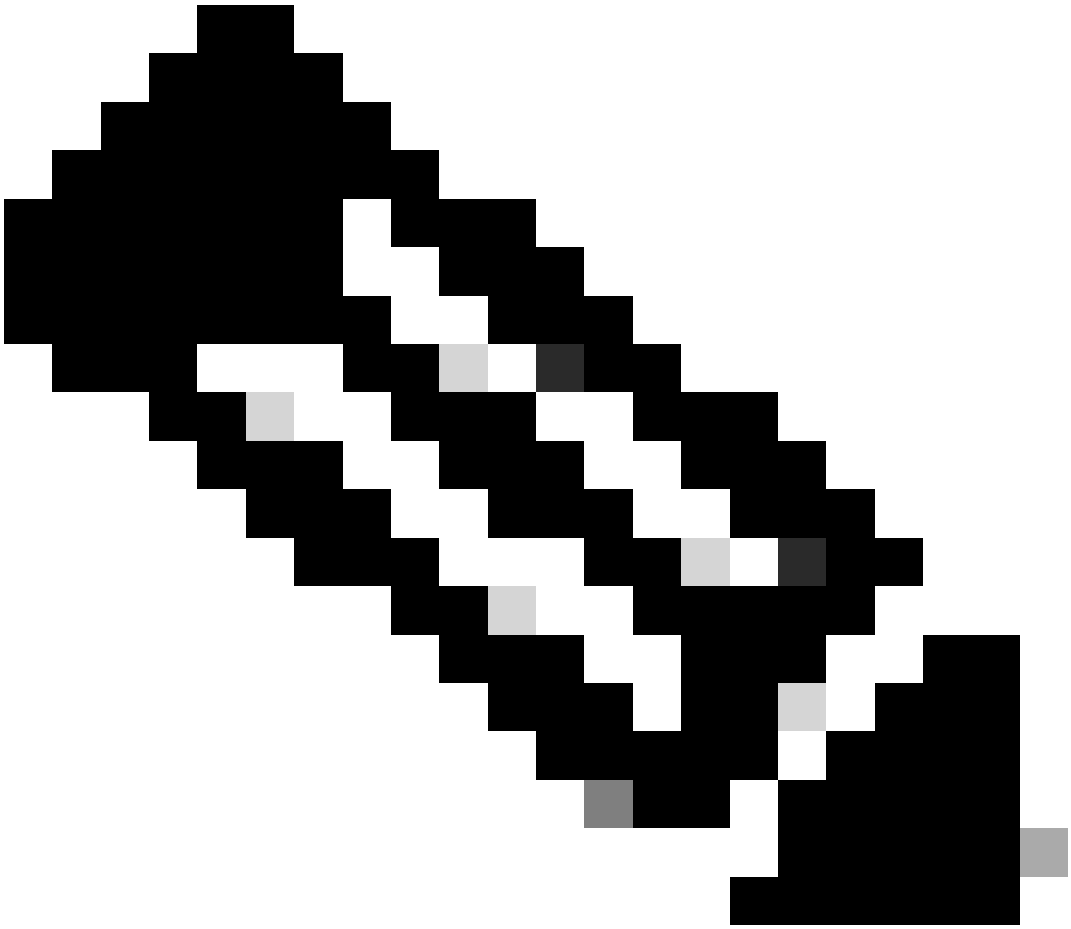
```
Boot000A* UEFI: Cisco CIMC-Mapped vDVD2.00 PciRoot(0x1)/Pci(0x8,0x1)/Pci(0x0,0x3)/USB(1,0)/USB(2,0)/Uni
+ return 1
+ '[' -n '' ']'
++ mount
++ grep /run/install/repo
++ cut -f 1 -d ' '
++ tr -d '[:digit:]'
++ true
+ usbdevice=
+ mkdir /mnt/usbdata
+ '[' -n '' ']'
+ '[' true = true ']'
+ read_iso_url
+ dmesg --console-off
+ true
+ echo 'To speed up the install, enter iso url. Type '\''skip'\'' to use local media:'
To speed up the install, enter iso url. Type 'skip' to use local media:
+ echo ' Either http://server/path/to/file or nfs:server:/path/to/file are supported'
Either http://server/path/to/file or nfs:server:/path/to/file are supported
+ read -r -p '? ' url
```

http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso **<< Enter the http server details >>**

```
+ '[' http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso = skip ']'
+ '[' http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso = '' ']'
+ '[' http = nfs: ']'
+ echo http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso
+ grep -q '\[.*\]'
++ awk -F '/|:' '{print $4}'
+ urlip=x.x.x.x197.204.4
```

```
+ '[' -z x.x.x.x197.204.4 ']'
+ break
+ dmesg --console-on
+ '[' -n http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso ']'
+ '[' http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.1i.iso '!=' skip ']'
+ dmesg --console-of
```

步驟 7. 輸入HTTP URL後，引導過程將繼續。



附註：選擇static選項，系統將要求您輸入介面名稱、管理IP地址和網關。

<#root>

```
+ set +e
+ configured=0
+ interface=none
+ addr=none
+ gw=none
+ '[' 0 -eq 0 ']'
```

```
+ echo 'Configuring network interface'
Configuring network interface
+
```

echo 'type static, dhcp, bash for a shell to configure networking, or url to re-enter the url:

'

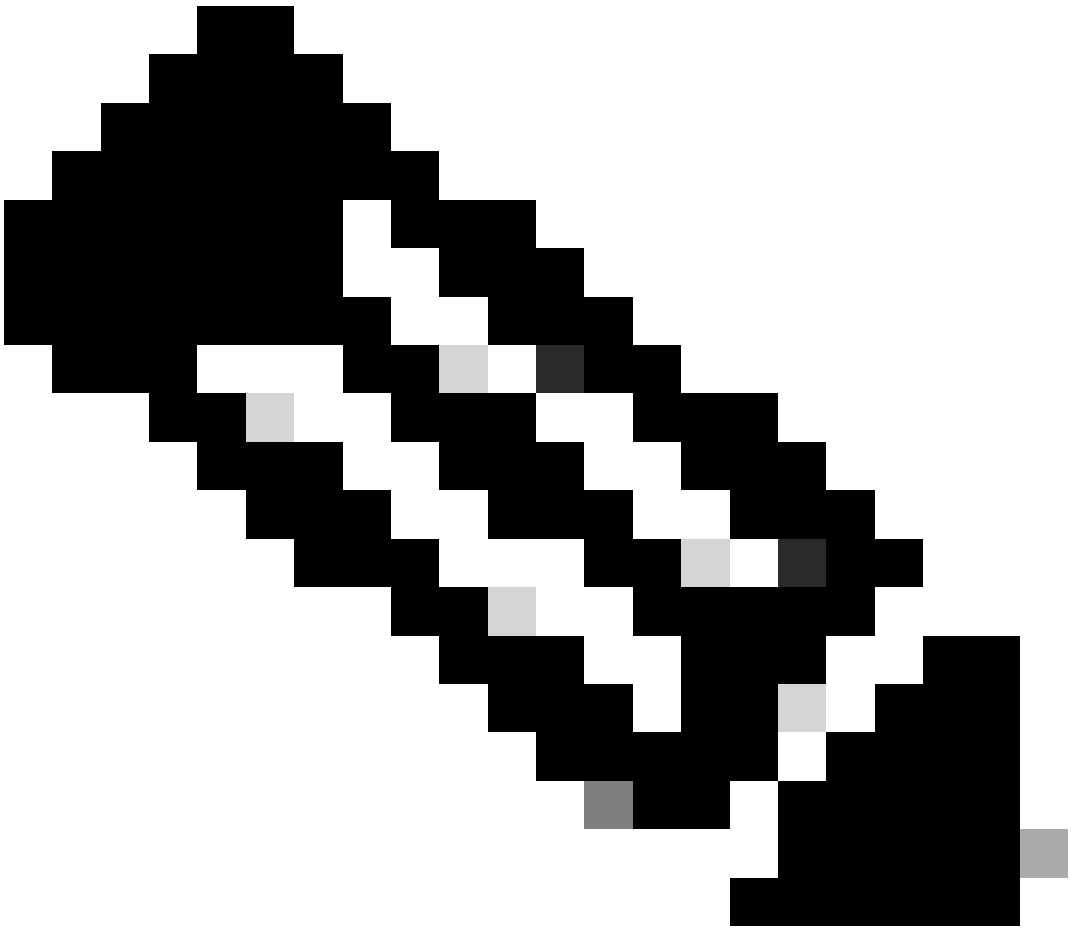
```
type static, dhcp, bash for a shell to configure networking, or url to re-enter the url:
+ read -p '? ' ntype
```

<#root>

? static

<< Enter the static to configure the networking >>

```
+ case $ntype in
+ configure_static
+ '[' none '!=' none ']'
```



附註：在鍵入靜態命令後，它將列出CIMC介面，選擇正確的介面。如果您選擇了錯誤的介面，則資料包丟失率將為100%，然後，在三次嘗試執行ping失敗後，它會再次要求選擇正確的介面，直到資料包丟失為0（如果您不知道介面），請依次選擇所有介面。

例如

<#root>

```
+ echo 'Available interfaces'
Available interfaces
+ ls -l /sys/class/net
total 0
lrwxrwxrwx 1 root root 0 Aug 12 03:53
```

eno5

```
 -> ../../devices/pci0000:40/0000:40:03.1/0000:46:00.0/0000:47:01.0/0000:49:00.0/0000:4a:00.0/0000:4b:0
lrwxrwxrwx 1 root root 0 Aug 12 03:53
```

eno6

```
 -> ../../devices/pci0000:40/0000:40:03.1/0000:46:00.0/0000:47:01.0/0000:49:00.0/0000:4a:00.0/0000:4b:0
lrwxrwxrwx 1 root root 0 Aug 12 03:53
```

enp1s0f0

```
 -> ../../devices/pci0000:00/0000:00:01.1/0000:01:00.0/net/enp1s0f0
lrwxrwxrwx 1 root root 0 Aug 12 03:53
```

enp1s0f1

```
 -> ../../devices/pci0000:00/0000:00:01.1/0000:01:00.1/net/enp1s0f1
lrwxrwxrwx 1 root root 0 Aug 12 03:51 lo -> ../../devices/virtual/net/lo
+ read -p 'Interface to configure: ' interface
```

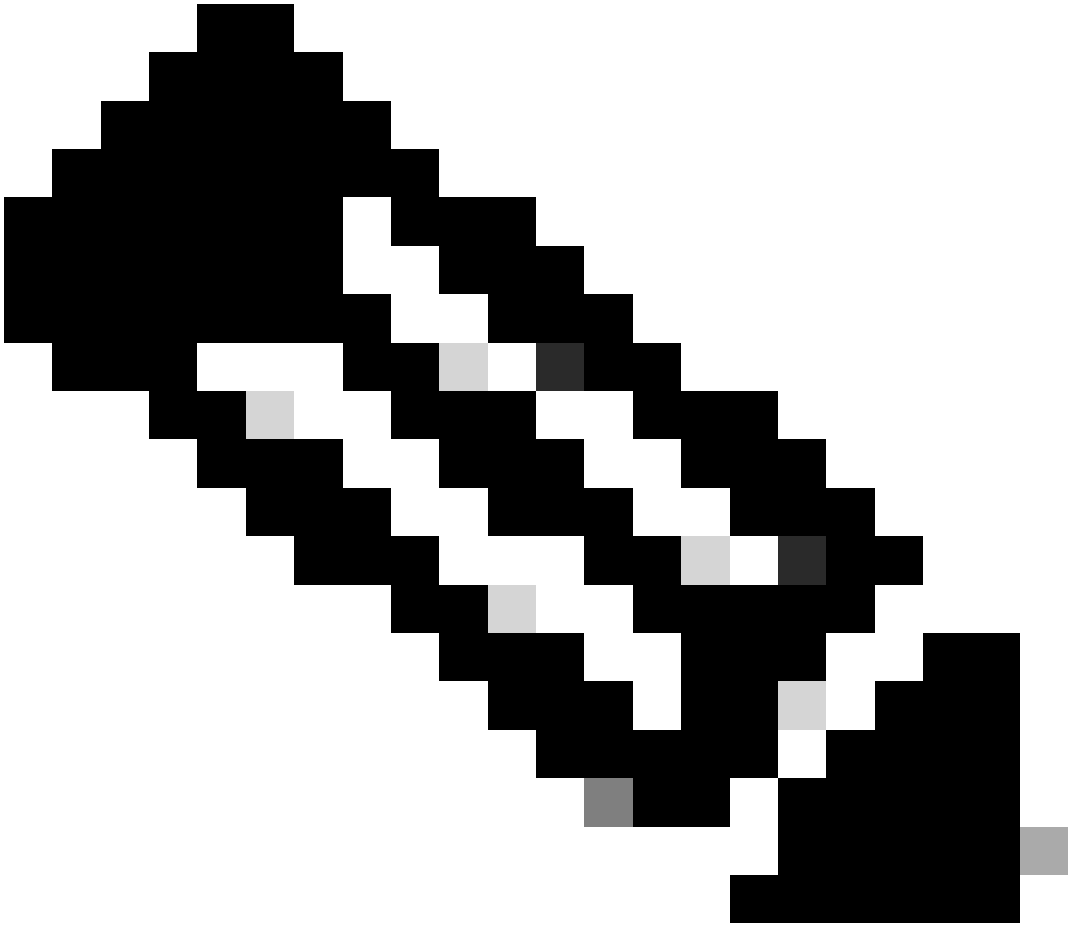
<#root>

```
Interface to configure:
```

enp1s0f0

<< select the correct interface   >>

```
+ read -p 'address: ' addr
```



附註：ND-NODE-L4需要格式為enp1s0fX的介面名稱，其中X是數字識別符號。SE-NODE-G2需要enoX格式，其中X是數字。

步驟8. 正確的介面檢查。

進入介面後，它將嘗試ping http伺服器，如果選定的介面正確，則資料包丟失率必須為0%，並開始從http伺服器提取映像。

舉例來說：在進入正確介面時出現0%的資料包丟失後。

<#root>

```
Interface to configure:

enp1s0f0


+ read -p 'address: ' addr
address: x.x.x.x/24
```

```
+ read -p 'gateway: ' gw
gateway:x.x.x.x
+ ip addr add x.x.x.x/24 dev enp1s0f0
+ ip link set enp1s0f0 up
+ ip route add default via x.x.x.x
++ seq 1 6
+ for count in $(seq 1 6)
+ ping -c 1 x.x.x.x
PING x.x.x.x (x.x.x.x): 56 data bytes

---x.x.x.x ping statistics ---
1 packets transmitted, 0 packets received, 100% packet loss
+ sleep 20
+ for count in $(seq 1 6)
+ ping -c x.x.x.x
PING x.x.x.x (x.x.x.x): 56 data bytes
64 bytes from x.x.x.x : seq=0 ttl=63 time=0.512 ms

---x.x.x.x ping statistics ---
1 packets transmitted, 1 packets received, 0% packet loss
round-trip min/avg/max = 0.512/0.512/0.512 ms
+ configured=1
+ break
+ '[' 1 -eq 0 ']'
+ set -e
+ tmpiso=/tmp/cdrom.iso
+ echo 'Fetching http://x.x.x.x/iso/DCApps/ND/nd-dk9.3.2.2f.iso to /tmp/cdrom.iso'
Fetching http://x.x.x.x/iso/DCApps/ND/nd-dk9.3.2.2f.iso to /tmp/cdrom.iso
```

>> started fetching the apic image from HTTP server

```
+ '[' http = nfs: ']'
+ download http://x.x.x.x/iso/DCApps/ND/nd-dk9.3.2.2f.iso /tmp/cdrom.iso
+ local url=http://x.x.x.x/iso/DCApps/ND/nd-dk9.3.2.2f.iso dest=/tmp/cdrom.iso tries=5
+ wget --server-response --no-check-certificate --tries=5 --progress=dot:mega --read-timeout=60 --outpu
--2025-08-12 09:39:08-- http://x.x.x.x197.204.4/iso/DCApps/ND/nd-dk9.3.2.2f.iso
Connecting to x.x.x.x:80... connected.
HTTP request sent, awaiting response...
HTTP/1.1 200 OK
Date: Tue, 12 Aug 2025 09:39:09 GMT
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips mod_wsgi/3.4 Python/2.7.5
Last-Modified: Tue, 10 Jun 2025 06:51:41 GMT
ETag: "2c66bd000-6373220f3b940"
Accept-Ranges: bytes
Content-Length: 11918888960
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
Content-Type: application/octet-stream
Length: 11918888960 (11G) [application/octet-stream]
Saving to: '/tmp/cdrom.iso.tmp'
```

如果您選擇了錯誤的介面，則資料包丟失率將為100%，在三次嘗試ping失敗後，它會再次要求選擇正確的介面。

舉例來說：進入錯誤介面後出現100%資料包丟失。

<#root>

```
+ read -p 'Interface to configure: ' interface
Interface to configure:
```

enp11s0

```
+ read -p 'address: ' addr
address: x.x.x.x/24
+ read -p 'gateway: ' gw
gateway: x.x.x.x
+ ip addr add x.x.x.x/24 dev enp11s0
+ ip link set enp11s0 up
+ ip route add default via x.x.x.x
++ seq 1 2
+ for count in '$(seq 1 2)'
+ ping -c 1 x.x.x.x
PING x.x.x.x (x.x.x.x) 56(84) bytes of data.
From x.x.x.x icmp_seq=1 Destination Host Unreachable

--- x.x.x.x ping statistics ---
1 packets transmitted, 0 received, +1 errors, 100% packet loss, time 0ms

+ sleep 20
+ for count in '$(seq 1 2)'
+ ping -c 1 x.x.x.x
PING x.x.x.x (x.x.x.x) 56(84) bytes of data.
From x.x.x.x icmp_seq=1 Destination Host Unreachable

--- x.x.x.x ping statistics ---
1 packets transmitted, 0 received, +1 errors, 100% packet loss, time 0ms

+ sleep 20
+ '[' 0 -eq 0 ']'
+ echo 'Configuring network interface'
Configuring network interface
+
```

echo 'type static, dhcp, bash for a shell to configure networking, or url to re-enter the url: '

<

>

```
type static, dhcp, bash for a shell to configure networking, or url to re-enter the url:
+ read -p '? ' ntype
?
```

保持監控CIMC CLI並等待約40-50分鐘，您將在cli上獲得以下輸出。

<#root>

```
+ log 'Shutting down Atomix Installer'
+ echo 'Shutting down Atomix Installer'
Shutting down Atomix Installer
+ log 'reboot: Power down'
+ echo 'reboot: Power down'
reboot: Power down
+ sleep 5
+ poweroff
+ ec[  533.195532] sysrq: Emergency Sync
ho s
[  533.195563] sysrq: Emergency Sync
[  533.212106] sysrq: Emergency Sync
[  533.212117] sysrq: Emergency Remount R/O
[  533.212189] sysrq: Power Off
[  533.212226] kvm: exiting hardware virtualization
[  533.213874] EXT4-fs (sdf1): re-mounted. Opts: (null). Quota mode: none.
[  533.215431] sd 1:0:0:0: [sdf] Synchronizing SCSI cache
[  533.215749] EXT4-fs (dm-3): re-mounted. Opts: (null). Quota mode: none.
[  533.216395] EXT4-fs (dm-1): re-mounted. Opts: (null). Quota mode: none.
[  533.217221] EXT4-fs (sdf6): re-mounted. Opts: (null). Quota mode: none.
[  533.217689] EXT4-fs (sdf4): re-mounted. Opts: (null). Quota mode: none.
[  533.218965] Emergency Remount complete
[  533.218997] Emergency Sync complete
[  533.218997] Emergency Sync complete
[  533.219002] Emergency Sync complete
[  533.359024] sd 1:0:0:0: [sdf] Stopping disk
+ echo s
+ echo s
+ echo u
+ echo o
+ log 'Nap time'
+ echo 'Nap time'
Nap time
+ true
+ sleep 60
[  535.571545] megaraid_sas 0000:41:00.0: megasas_disable_intr_fusion is called outbound_intr_mask:0x40
[  535.692202] ACPI: PM: Preparing to enter system sleep state S5
[  535.706849]

 reboot: Power down
```

步驟9. 關閉電源後退出SOL

等待，直到您在SOL控制檯中看到消息關閉，然後按下Ctrl和x(Ctrl+x)從SOL退出，然後再次登入CIMC並再次更改範圍。

```
(i) Change the scope to virtual media again:
system# scope vmedia
system /vmedia #
```

```
(ii) Unmap the .iso image that you mapped in 2.c:
 system /vmedia # unmap volume_name
 At the Save mapping prompt, enter yes if you want to save the mapping or no if you do not want to save
 system /vmedia # unmap apic
```

```
 Save mapping? Enther 'yes' or 'no' to confirm (CTRL-C to cancel) → yes
 system /vmedia #
```

```
(iii) Connect back to SOL again:
 system /vmedia #  connect host
```

關閉電源後，您需要使用KVM重新開啟系統電源，然後繼續執行後續步驟。

步驟x.x.x.x首次啟動設定

```
[  274.210045] nd_bootstrap.sh[2628]:   INFO[0174] bootDisk: found disk=/dev/sdf bootPart=/dev/sdf4 esp
[  274.224041] nd_bootstrap.sh[2628]:   INFO[0174] boot devices/filesystems have been mounted
[  274.236038] nd_bootstrap.sh[2628]:   INFO[0174] |12231-start| ["expand-stub.bash" "/boot/efi/EFI/atx
[  274.251228] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 21870+1 records in
[  274.262061] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 21870+1 records out
[  274.272065] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 11197856 bytes (11 MB, 11 MiB) copied,
[  274.287060] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 0+1 records in
[  274.297060] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 0+1 records out
[  274.307049] nd_bootstrap.sh[2628]:   INFO[0174] |12231-out  | 187 bytes copied, 7.2325e-05 s, 2.6 MB
[  274.566030] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 102375+1 records in
[  274.576055] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 102375+1 records out
[  274.588059] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 52416297 bytes (52 MB, 50 MiB) copied,
[  274.604075] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 0+1 records in
[  OK  ] Finished atomix-boot-setup.
[  274.615055] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 0+1 records out
Starting Initial cloud-init job (pre-networking)...
[  274.634046] nd_bootstrap.sh[2628]:   INFO[0175] |12231-out  | 82 bytes copied, 9.4287e-05 s, 870 kB/
[  274.656064] nd_bootstrap.sh[2628]:   INFO[0175] |12231-exit | rc=0
[  274.666047] nd_bootstrap.sh[2628]:   INFO[0175] Boot()                    duration=175321
[  274.837851] cloud-init[12253]: Cloud-init v. 24.1.3-0ubuntu1~22.04.5 running 'init-local' at Tue, 12
Press any key to run first-boot setup on this console...
Starting Nexus Dashboard setup utility
Welcome to Nexus Dashboard 3.2.2f
Press Enter to manually bootstrap your first master node..
```

步驟11.配置Nexus Dashboard管理介面的管理員密碼和管理網路

```
Starting Nexus Dashboard setup utility
Welcome to Nexus Dashboard 3.2.2f
Press Enter to manually bootstrap your first master node...

Admin Password:
Reenter Admin Password:
Management Network:
  IP Address/Mask: x.x.x.x/24
  Gateway: x.x.x.x
```

重新輸入config?(y/N):否

```
System configured successfully
Initializing System on first boot. Please wait..
[  OK  ] Listening on Network Service Netlink Socket.
[  OK  ] Finished Initial cloud-init job (pre-networking).
[  OK  ] Reached target Preparation for Network.
         Starting Network Configuration...
[  OK  ] Started Network Configuration.
[  OK  ] Reached target Network.
Starting Wait for Network to be Configured...
```

步驟12. Nexus儀表板節點已準備登入。您可以使用其餘配置的管理介面IP登入到ND GUI

在控制檯上：

<#root>

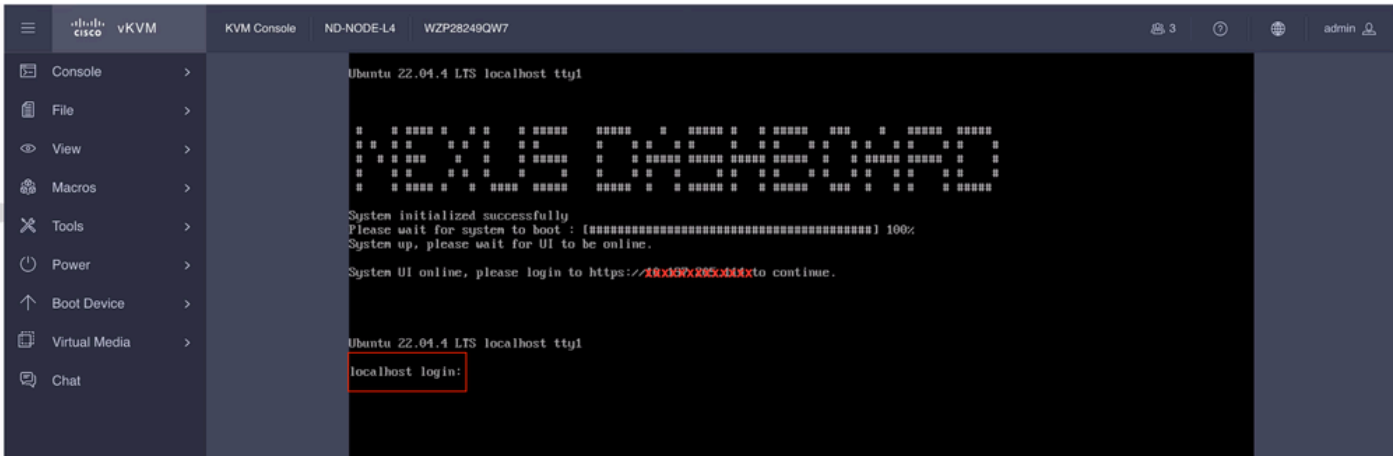
```
Ubuntu 22.04.4 LTS localhost ttyS0

#    # #### #   # #    # #####    #####    #   ##### #   # #####   ###    #   #####  #####

# #  # #    # #  #    # #        #    # #   # #     #   # #    # #   # #   # #    # #    #

#  # # ###    #   #    # #####    #    # ##### ##### ##### #####  #   # ##### #####  #    #

#    # #    # #  #    #    #     #    # #   #     # #   # #    # #   # #   # #    # #    #

#    # #### #   #  ####  #####    #####  #   # ##### #   # #####   ###  #   # #    # #####
System initialized successfully
[  564.309561] cloud-init[1256O]: Cloud-init v. 24.1.3-Oubuntu1~22.04.5 running 'modules:final' at Tue,
ci-info: no authorized SSH keys fingerprints found for user ubuntu.
<14>Aug 12 09:58:29 cloud-init: #############################################################
<14>Aug 12 09:58:29 cloud-init: -----BEGIN SSH HOST KEY FINGERPRINTS-----
<14>Aug 12 09:58:29 cloud-init: 256 SHA256:vKu7Zj3MAP+vFOXaeW14HClEhAwrSpA9AqcUC4SZVlU root@localhost (
<14>Aug 12 09:58:29 cloud-init: 256 SHA256:I7eiUnQq6pZsoFPy+UxIUQ66jQOgHyG4zGuF6cAtSlO root@localhost (
<14>Aug 12 09:58:29 cloud-init: 3072 SHA256:SvodRIEgWzEAaQQdH2rlwOqLziBbvOe88VAGkt/ox14 root@localhost
<14>Aug 12 09:58:29 cloud-init: -----END SSH HOST KEY FINGERPRINTS-----
<14>Aug 12 09:58:29 cloud-init: #############################################################

-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBBf9S1BXcR48cWcIKhvfjLGYufJgycG
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIGWTN7hoB2/dYSVAOgpV88FWh2iRD2hwJ2LMryhhhQHg root@localhost
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCeM+In/dciDwCKEPLV/97oIA5pHHRBRfOLij5NcUwzYAf9q/m/lUsdzv2zVYc4WAJ
-----END SSH HOST KEY KEYS-----
[  564.364630] cloud-init[1256O]: Cloud-init v. 24.1.3-Oubuntu1~22.04.5 finished at Tue, 12 Aug 2025 09
Please wait for system to boot : [########################################] 100%
System up, please wait for UI to be online.
System UI online, please login to https://x.x.x.x to continue. <<
```

Access the Nexus Dashboard GUI via this URL

>>
Ubuntu 22.04.4 LTS localhost ttyS0

localhost login:

在KVM上：



關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。