

使用API呼叫獲取多個分級的運行配置

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簡介

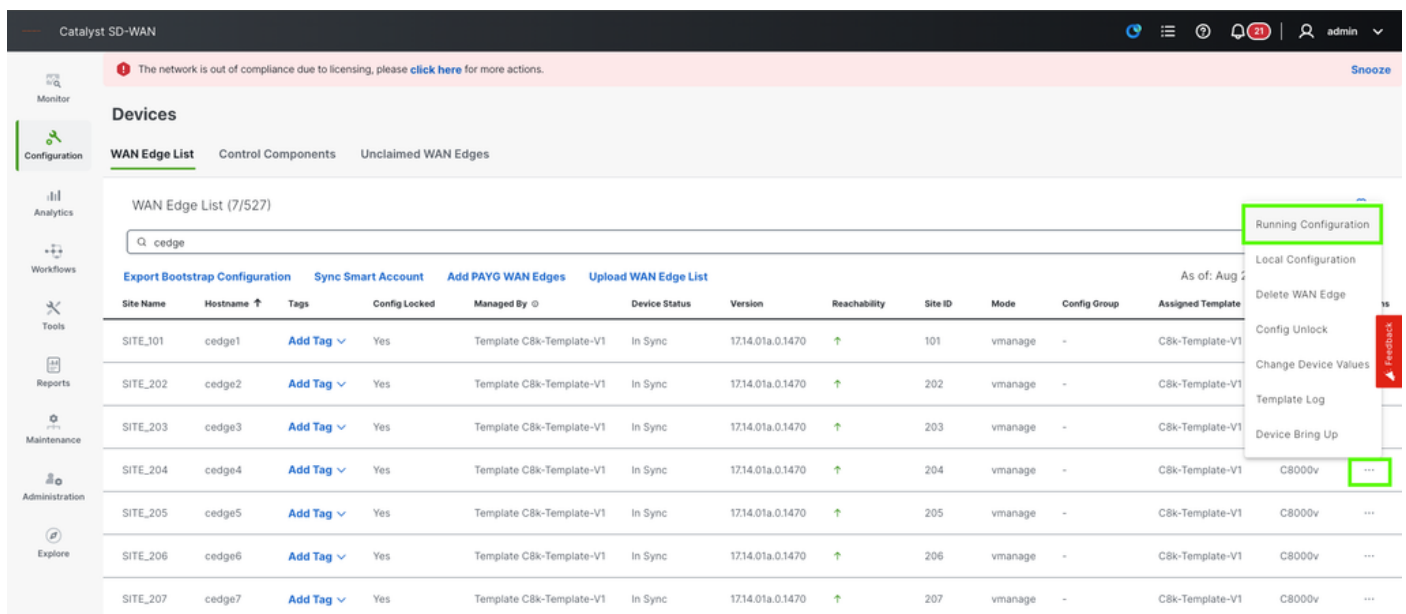
本文檔介紹如何使用vManage中可用的某些API呼叫，以及如何調整它以使用指令碼運行它。

問題

如果重疊包含數百或數千台思科邊緣路由器，則從vManage需要的資訊並不總是容易收集。

範例：

要獲取單個Cisco Edge路由器的運行配置，最簡單的方法是導航到Configuration > Devices > Wan Edge List，然後點選省略號(...)和Running Configuration。然後，您必須選擇並複製所有配置，然後將其儲存在另一個檔案中，如.txt格式。但是，如果您想獲得多個思科邊緣路由器的配置，則會出現問題，使得此任務非常耗時且非常耗時。



The screenshot shows the vManage Catalyst SD-WAN interface. The top navigation bar includes 'Monitor', 'Configuration', 'Analytics', 'Workflows', 'Tools', 'Reports', 'Maintenance', 'Administration', and 'Explore'. The 'Configuration' tab is selected, and the 'WAN Edge List' is displayed. A search bar shows 'Q. cedge'. Below the search bar are links for 'Export Bootstrap Configuration', 'Sync Smart Account', 'Add PAYG WAN Edges', and 'Upload WAN Edge List'. The table lists 7 devices (SITE_101 to SITE_207). A dropdown menu is open for the first device (SITE_101), showing options: 'Running Configuration', 'Local Configuration', 'Delete WAN Edge', 'Config Unlock', 'Change Device Values', 'Template Log', and 'Device Bring Up'. The 'Running Configuration' option is highlighted. The table columns are: Site Name, Hostname, Tags, Config Locked, Managed By, Device Status, Version, Reachability, Site ID, Mode, Config Group, and Assigned Template.

Site Name	Hostname	Tags	Config Locked	Managed By	Device Status	Version	Reachability	Site ID	Mode	Config Group	Assigned Template
SITE_101	cedge1	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	101	vmanage	-	C8k-Template-V1
SITE_202	cedge2	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	202	vmanage	-	C8k-Template-V1
SITE_203	cedge3	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	203	vmanage	-	C8k-Template-V1
SITE_204	cedge4	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	204	vmanage	-	C8k-Template-V1
SITE_205	cedge5	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	205	vmanage	-	C8k-Template-V1
SITE_206	cedge6	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	206	vmanage	-	C8k-Template-V1
SITE_207	cedge7	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑	207	vmanage	-	C8k-Template-V1

The screenshot shows the Catalyst SD-WAN vManage interface. On the left is a navigation sidebar with options like Monitor, Configuration, Analytics, Workflows, Tools, Reports, Maintenance, Administration, and Explore. The main area is titled 'Devices' and contains a 'WAN Edge List' table with 7 entries. A search bar above the table contains the text 'edge'. To the right, a 'Running Configuration' window is open, displaying the configuration for a device with Host: 40.40.40.1, Site ID: 204, and Device Model: C8000v. The configuration includes system settings, interfaces, and various services.

Site Name	Hostname	Tags	Config Locked	Managed By	Device Status	Version	Reachability
SITE_101	cedge1	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_202	cedge2	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_203	cedge3	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_204	cedge4	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_205	cedge5	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_206	cedge6	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑
SITE_207	cedge7	Add Tag	Yes	Template C8k-Template-V1	In Sync	17.14.01a.0.1470	↑

API呼叫概述

以下過程是一個示例，說明如何使用簡單的API呼叫獲取所需的所有資訊。

步驟 1.

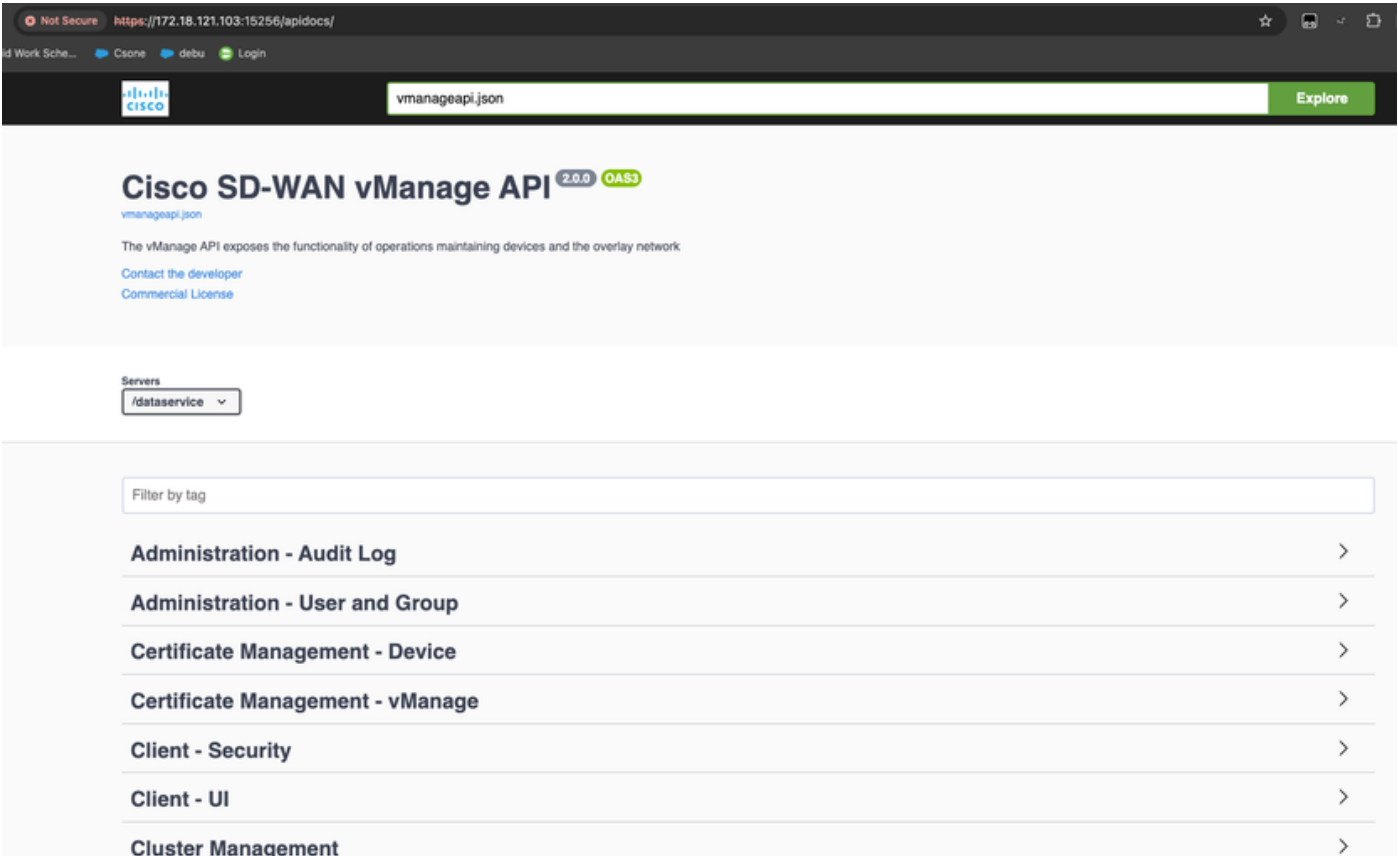
使用URL或IP地址正常登入到vManage。

The screenshot shows the Catalyst SD-WAN vManage 'Monitor' page. The top navigation bar includes 'Overview', 'Devices', 'Applications', 'Security', 'Multicloud', 'Tunnels', and 'Logs'. The 'Overview' section displays several summary cards: Control Components (1 Validator, 2 Controller, 1 Manager), WAN Edges (7 Reachable, 1 Unreachable), Certificate Status (1 Warning, 3 Invalid), Licensing (0 Assigned, 8 Unassigned), and Reboot (0 Last 24 hrs). Below these, the 'Site Health' section shows a donut chart for 'Poor Performing Sites' with 9 sites. A table lists the sites: SITE_202, SITE_203, SITE_10, SITE_207, and SITE_206, all with 0 GB usage. The 'Tunnel Health' section shows a donut chart for 'Fair Tunnels' with 72 tunnels. A table lists the tunnels: cedge3.mpls-chedge4.m..., cedge3.biz-internet-ced..., cedge2.biz-internet-ced..., cedge4.biz-internet-ced..., and cedge1.mpls-chedge5.mpls, with latency values ranging from 4.84 to 40.40 ms.

步驟 2.

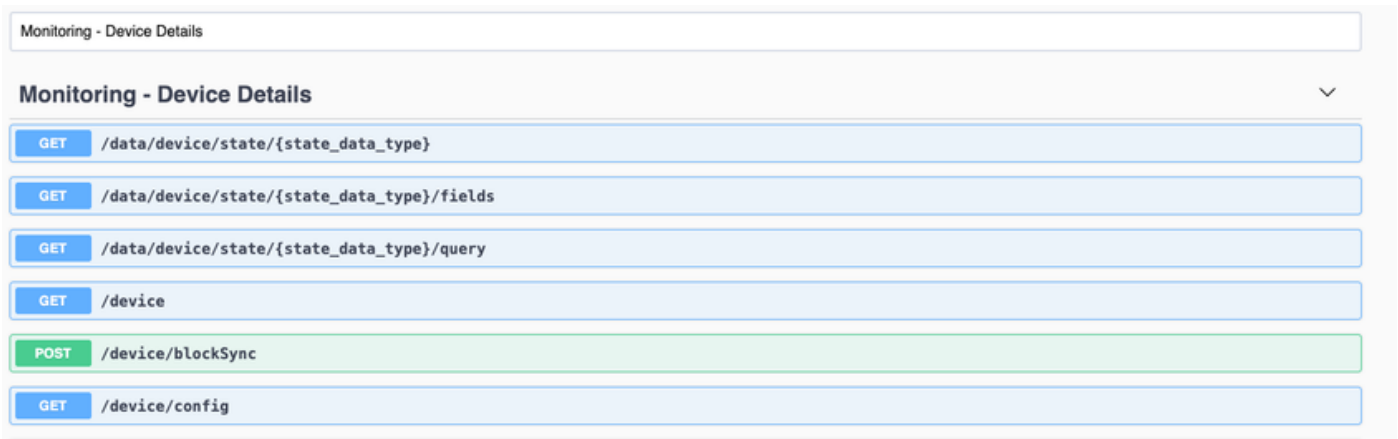
開啟新的頁籤瀏覽器，然後複製並貼上vManage的URL，並新增字尾

/apidocs(<https://172.18.121.103:15256/apidocs/>)。



步驟 3.

在搜尋框中，鍵入Monitoring - Device Details。



步驟 4.

為了獲得一個裝置的配置，您必須嘗試/device/config API呼叫。

GET /device/config

Get device running configuration

Parameters

Try it out

Name	Description
deviceId * required array[string] (query)	Device Id list

步驟 5.

輸入一個Cisco Edge路由器的System-IP，然後運行API呼叫。

GET /device/config

Get device running configuration

Parameters

Cancel

Name	Description
deviceId * required array[string] (query)	Device Id list

10.10.10.1

Add Item

Execute

Responses

Curl

This curl can be used to run scripts

curl -X GET "https://172.18.121.103:15256/dataservice/device/config?deviceId=10.10.10.1" -H "accept: text/plain" -H "X-XSRF-TOKEN: A7BBCBCFA4F0D32644D071247F7C087556F8EE0C7BEF9B434C4CF4EE2D708005B9EABC14354244085A305008E4680B3BC010"

Request URL

https://172.18.121.103:15256/dataservice/device/config?deviceId=10.10.10.1

Server response

Code	Details
200	Response body In this section you can see the configuration of device. <pre> system system-ip 10.10.10.1 overlay-id 1 site-id 101 no transport-gateway enable port-offset 0 control-session-pps 300 admin-tech-on-failure sp-organization-name CISCORTPLAB organization-name CISCORTPLAB port-hop track-transport track-default-gateway console-baud-rate 9600 no on-demand enable on-demand idle-timeout 10 vbond 192.168.51.117 port 12346 ! banner login \x03Un authorised Logins tracked\x03 banner motd \x03Restricted Use\x03 service timestamps debug datetime msec service timestamps log datetime msec service tcp-keepalives-in service tcp-keepalives-out no service tcp-small-servers no service udp-small-servers hostname cedge1 username admin privilege 15 secret 9 \$9\$3V6L3V6L2VUI2k\$ysPnX0dg8RLj9KgMdmfHdSHKdaMniHzGaUpqH6pfTo </pre> This option downloads html file with the configuration. Download

在指令碼中使用Curl

更好的選擇是使用指令碼中的API呼叫生成Cisco Edge路由器的配置檔案。

步驟 1.

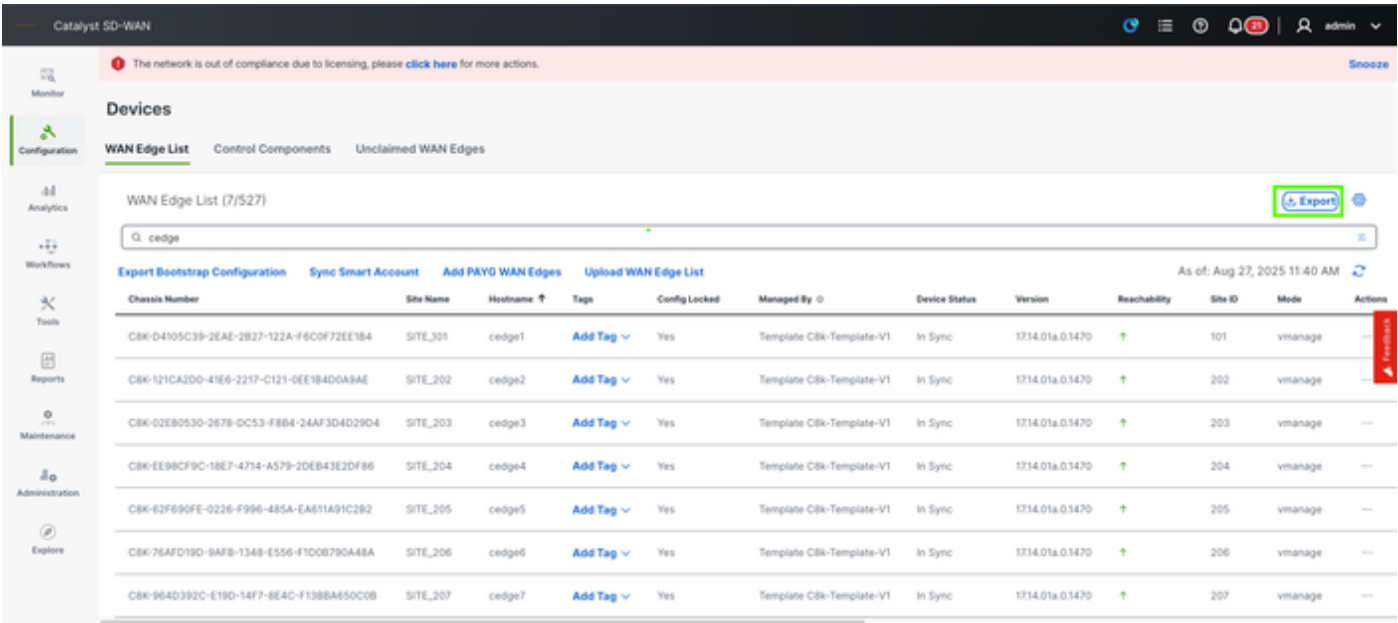
首先，在shell或CLI命令列中，建立儲存所有備份檔案的資料夾。

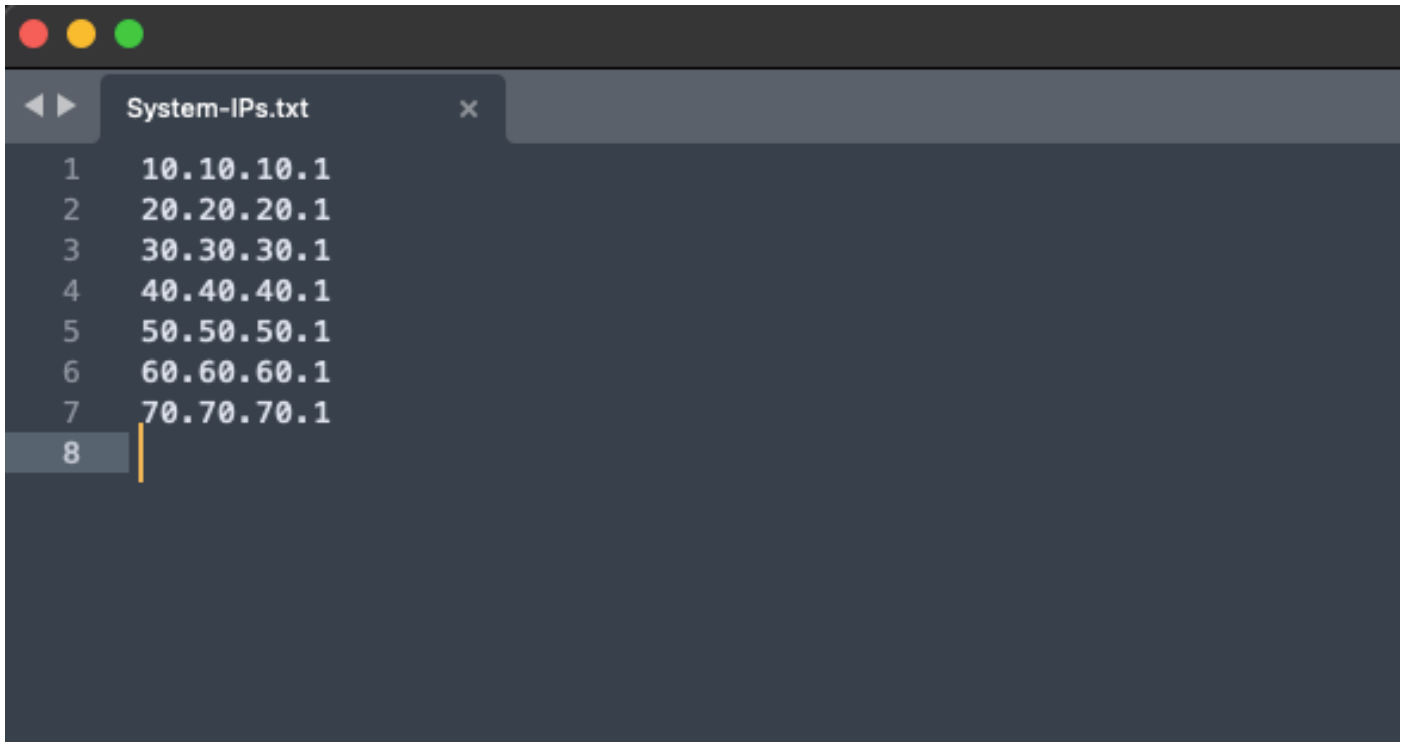
```
lufrias@LUFRIAS-M-P9Q2 Desktop % mkdir Backup_cedges
lufrias@LUFRIAS-M-P9Q2 Desktop % cd Backup_cedges
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % pwd
/Users/lufrias/Desktop/Backup_cedges
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
```

步驟 2.

使用需要備份的思科邊緣路由器的所有系統IP地址建立一個.txt檔案。您可以從vManage和匯出CSV檔案獲得的系統IP地址清單。

需要將檔案命名為System-IPs.txt，並將其儲存在先前建立的同一目錄中(Backup_cedges)。





步驟 3.

確認檔案已儲存。

```
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % ls -l
total 8
-rw-r--r--@ 1 lufrias  staff  77 Aug 27 12:20 System-IPs.txt
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
```

步驟 4.

繼續建立指令碼。可以使用vi或任何記事本，但必須小心使用.sh格式儲存。

```
#!/bin/bash

#Define your variables

echo "Please type vManage URL in following format"
echo "https://172.18.121.103:15256 or https://vmanage.cisco.com"

read VMANAGE

echo "Please enter username to access vmanage"

read USER

echo "Password:"

read PASSWORD
```

```
#DEFINING THE API CALLS TO LOGIN AND BODY
```

```
security_url="$VMANAGE/j_security_check"
```

```
credentials="j_username=$USER&j_password=$PASSWORD"
```

```
#EXECUTE THE API CALL TO LOGIN TO THE VMANAGE.
```

```
curl --request POST --silent --insecure -c cookies.txt --url $security_url --data $credentials
```

```
#EXECUTE THE API CALL TO GET A TOKEN
```

```
TOKEN=$(curl "$VMANAGE/dataservice/client/token" -X GET -b cookies.txt -s --insecure)
```

```
arr_csv=()
```

```
while IFS= read -r line
```

```
do
```

```
    arr_csv+=("$line")
```

```
    curl --insecure -b cookies.txt -H "accept: text/plain" -H "X-XSRF-TOKEN: $TOKEN" -X GET "$VMANAGE/"
```

```
    echo $line
```

```
done < System-IPs.txt
```

```
echo "Running config was collected from following System_IPs:"
```

```
index=0
```

```
for record in "${arr_csv[@]}"
```

```
do
```

```
    echo "Record at index-${index} : $record"
```

```
    ((index++))
```

```
done
```

```
curl "$VMANAGE/logout" -b cookies.txt --silent --insecure -H "X-XSRF-TOKEN: $TOKEN"
```

```
echo "Check files, if they are empty or with message "Bad request" check user and password"
```

步驟 5.

更改檔案的許可權，使其可以運行。

```
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % ls -l
total 16
-rw-r--r--@ 1 lufrias  staff    77 Aug 27 12:20 System-IPs.txt
-rw-r--r--  1 lufrias  staff  1174 Aug 27 12:47 config_backup_script.sh
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % chmod +x config_backup_script.sh
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % ls -l
total 16
-rw-r--r--@ 1 lufrias  staff    77 Aug 27 12:20 System-IPs.txt
-rwxr-xr-x  1 lufrias  staff  1174 Aug 27 12:47 config_backup_script.sh
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
```

步驟 6.

使用./config_backup_script.sh命令運行指令碼。請考慮完成此操作需要一些時間，具體取決於裝置的數量。

```
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % ./config_backup_script.sh
Please type vManage URL in following format
https://172.18.121.103:15256 or https://vmanage.cisco.com
https://172.18.121.103:15256
Please enter username to access vmanage
admin
Password:
qwerty1234Q
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7238	0 7238	0 0	1133	0	--:--:--	0:00:06	--:--:--	1761

10.10.10.1

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7218	0 7218	0 0	1799	0	--:--:--	0:00:04	--:--:--	1800

20.20.20.1

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7225	0 7225	0 0	1978	0	--:--:--	0:00:03	--:--:--	1978

30.30.30.1

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7225	0 7225	0 0	1491	0	--:--:--	0:00:04	--:--:--	2031

40.40.40.1

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7225	0 7225	0 0	2717	0	--:--:--	0:00:02	--:--:--	2718

50.50.50.1

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 7225	0 7225	0 0	1610	0	--:--:--	0:00:04	--:--:--	1641

```

60.60.60.1
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100  7225    0  7225    0    0   1668      0 --:--:--  0:00:04 --:--:--  1668
70.70.70.1
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100   40    0   40    0    0   108      0 --:--:--  --:--:--  --:--:--   107

```

80.80.80.1
Running config was collected from following System_IPs:

```

Record at index-0 : 10.10.10.1
Record at index-1 : 20.20.20.1
Record at index-2 : 30.30.30.1
Record at index-3 : 40.40.40.1
Record at index-4 : 50.50.50.1
Record at index-5 : 60.60.60.1
Record at index-6 : 70.70.70.1
Record at index-7 : 80.80.80.1

```

Method Not AllowedCheck files, if they are empty or with message Bad request check user and password
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %

步驟 7.

最後，使用ls -l命令檢查檔案存在。

```

lufrias@LUFRIAS-M-P9Q2 Backup_cedges % ls -l
total 152
-rw-r--r-- 1 lufrias staff 7238 Sep 11 10:06 10.10.10.1.txt
-rw-r--r-- 1 lufrias staff 7218 Sep 11 10:06 20.20.20.1.txt
-rw-r--r-- 1 lufrias staff 7225 Sep 11 10:06 30.30.30.1.txt
-rw-r--r-- 1 lufrias staff 7225 Sep 11 10:06 40.40.40.1.txt
-rw-r--r-- 1 lufrias staff 7225 Sep 11 10:06 50.50.50.1.txt
-rw-r--r-- 1 lufrias staff 7225 Sep 11 10:06 60.60.60.1.txt
-rw-r--r-- 1 lufrias staff 7225 Sep 11 10:07 70.70.70.1.txt
-rw-r--r-- 1 lufrias staff 40 Sep 11 10:07 80.80.80.1.txt
-rw-r--r--@ 1 lufrias staff 88 Sep 10 11:48 System-IPs.txt
-rwxr-xr-x 1 lufrias staff 1352 Sep 11 09:49 config_backup_script.sh
-rw-r--r-- 1 lufrias staff 288 Sep 11 10:06 cookies.txt
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %

```

檢查組態檔。

```

lufrias@LUFRIAS-M-P9Q2 Backup_cedges % more 10.10.10.1.txt
system
system-ip          10.10.10.1
overlay-id         1
site-id            101
no transport-gateway enable
port-offset        0

```

```
control-session-pps    300
admin-tech-on-failure
sp-organization-name   CISCORTPLAB
organization-name      CISCORTPLAB
port-hop
track-transport
track-default-gateway
console-baud-rate      9600
no on-demand enable
on-demand idle-timeout 10
vbond 192.168.51.117 port 12346
```

如果檔案為空或顯示錯誤消息「Bad request」，請檢查身份驗證用戶名和密碼。

```
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % more 30.30.30.1.txt
Bad Request
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
```

如果檔案顯示「No device found for system IP」（未找到系統IP的裝置），則表示vManage中不存在系統IP。您必須更正System-IPs.txt並刪除錯誤的System-IP。

```
lufrias@LUFRIAS-M-P9Q2 Backup_cedges % more 80.80.80.1.txt
No device found for system IP 80.80.80.1
lufrias@LUFRIAS-M-P9Q2 Backup_cedges %
```

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）。