

Obter a configuração atual de vários Cedges usando a chamada de API

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Introdução

Este documento descreve como usar algumas das chamadas de API disponíveis no vManage e como adaptá-las para executá-las usando um script.

Problema

Nem sempre é fácil coletar informações que você pode exigir do vManage se a sobreposição contiver centenas ou milhares de Cisco Edge Routers.

Exemplo:

A maneira mais simples de obter a configuração em execução de um único Cisco Edge Router é navegar para Configuration > Devices > Wan Edge List, clique em ellipsis (...) e Running Configuration. Em seguida, você precisa selecionar e copiar toda a configuração e salvar em outro arquivo, como o formato .txt. No entanto, o problema surge quando você deseja obter a configuração de vários Cisco Edge Routers, tornando essa tarefa exaustiva e demorada.

The screenshot shows the Catalyst SD-WAN vManage interface. The 'Devices' section is active, displaying the 'WAN Edge List' table. The table lists various sites (SITE_101 to SITE_207) with columns for Site Name, Hostname, Tags, Config Locked, Managed By, Device Status, Version, Reachability, Site ID, Mode, Config Group, and Assigned Template. A dropdown menu is open for the 'SITE_204' row, showing options like 'Running Configuration', 'Local Configuration', 'Delete WAN Edge', 'Config Unlock', 'Change Device Values', 'Template Log', and 'Device Bring Up'. The 'Running Configuration' option is highlighted with a green box.

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

Catalyst SD-WAN

The network is out of compliance due to licensing, please [click here](#) for more actions.

Devices

WAN Edge List

Control Components Unclaimed WAN Edges

WAN Edge List (7/527)

Q cedge

Export Bootstrap Configuration Sync Smart Account Add PAYG WAN Edges Upload WAN Edge List

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	↑

Running Configuration

Host: 40.40.40.1
Site ID: 204
Device Model: C8000v

```

system
system-ip 40.40.40.1
overlay-id 1
site-id 204
no transport-gateway enable
port-offset 0
control-session-pps 300
admin-tech-on-failure
sp-organization-name CISCONTPLAB
organization-name CISCONTPLAB
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 v03Un authorised Logins trackedv03
banner motd v03Restricted Usev03
service timestamps debug datetime msec
service timestamps log datetime msec
service tcp-keepalives-in
no service tcp-small-servers
no service udp-small-servers
hostname cedge4
username admin privilege 15 secret 9
$9$3V6L3V6L2VU2K$ysPhX0dg8RLj9KgmMdmfHdShkdaMmhtzGaUpqht8pTfo
vrf definition 10
description Corporate
  
```

[Feedback](#) [Close](#)

Visão geral da chamada à API

Este procedimento é um exemplo de como você pode usar uma chamada de API simples para obter todas as informações necessárias.

Etapas 1.

Faça login no vManage normalmente usando o URL ou o endereço IP.

Catalyst SD-WAN

The network is out of compliance due to licensing, please [click here](#) for more actions.

Monitor

All Sites

Overview

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

Reboot: 0 Last 24 hrs

24 Hours

Site Health

Poor Performing Sites

9 Sites

Site name	Usage (GB)
SITE_202	0
SITE_203	0
SITE_10	0
SITE_207	0
SITE_206	0

Good Fair Poor

Current Previous 24 hrs

Tunnel Health

Latency (ms) Fair Tunnels

72 Tunnels

Tunnel	Latency (ms)
cedge3.mpls-cedge4.m...	38.60
cedge3.biz-internet-ced...	32.89
cedge2.biz-internet-ced...	32.88
cedge4.biz-internet-ced...	28.02
cedge1.mpls-cedge5.mpls	27.22

Good Fair Poor

Current Pre

Etapas 2.

Abra um novo navegador de guias e copie e cole o URL do vManage e adicione o sufixo /apidocs (https://172.18.121.103:15256/apidocs).

Not Secure https://172.18.121.103:15256/apidocs/

id Work Sche... Csonc debu Login

CISCO vmanageapi.json Explore

Cisco SD-WAN vManage API 2.0.0 OAS3

vmanageapi.json

The vManage API exposes the functionality of operations maintaining devices and the overlay network

[Contact the developer](#)
[Commercial License](#)

Servers
/dataservice

Filter by tag

- Administration - Audit Log >
- Administration - User and Group >
- Certificate Management - Device >
- Certificate Management - vManage >
- Client - Security >
- Client - UI >
- Cluster Management >

Etapa 3.

Na caixa de pesquisa, digite Monitoring - Device Details.

Monitoring - Device Details

Monitoring - Device Details

- GET /data/device/state/{state_data_type}
- GET /data/device/state/{state_data_type}/fields
- GET /data/device/state/{state_data_type}/query
- GET /device
- POST /device/blockSync
- GET /device/config

Etapa 4.

Para obter a configuração de um dispositivo, você tem que experimentar a chamada da API /device/config.

GET /device/config

Get device running configuration

Parameters

Try it out

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

Etapa 5.

Insira o System-IP de um Cisco Edge Router e execute a chamada API.

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: A7BBC8CFA4F0D32644D071247F7C087556F8EE0C7BEF9B434C4CF4EE2D708005B9EABC14354244085A305008E4680B3BC010"

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.

```

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 cedgel
username admin privilege 15 secret 9 $9$3V6L3V6L2VUI2k$ysPnX0dg8RLj9KgMdmfHdSHkdaMniHzGaUpqH6pfTo

```

This option downloads html file with the configuration.

Download

Usando Curl no Script

Uma opção melhor é usar uma chamada de API em um script para gerar arquivos de

configuração dos Cisco Edge Routers.

Etapa 1.

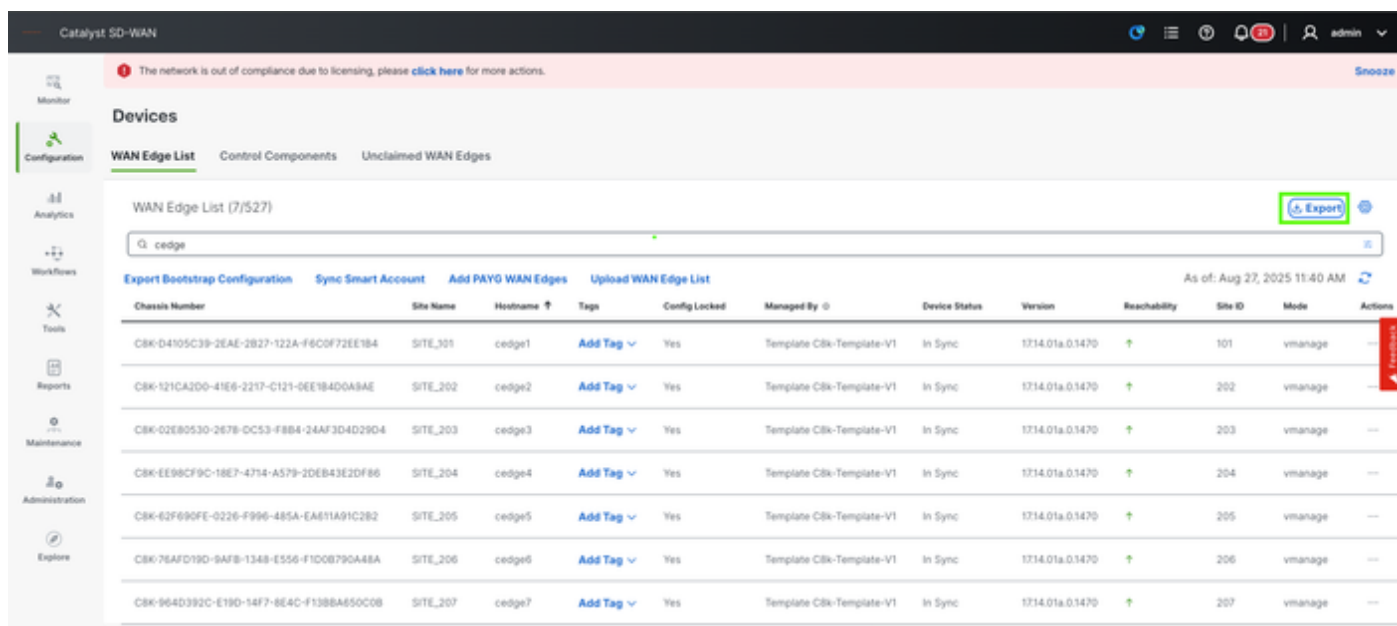
Primeiro, na linha de comando do shell ou da CLI, crie uma pasta onde todos os arquivos de backup sejam armazenados.

```
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 %
```

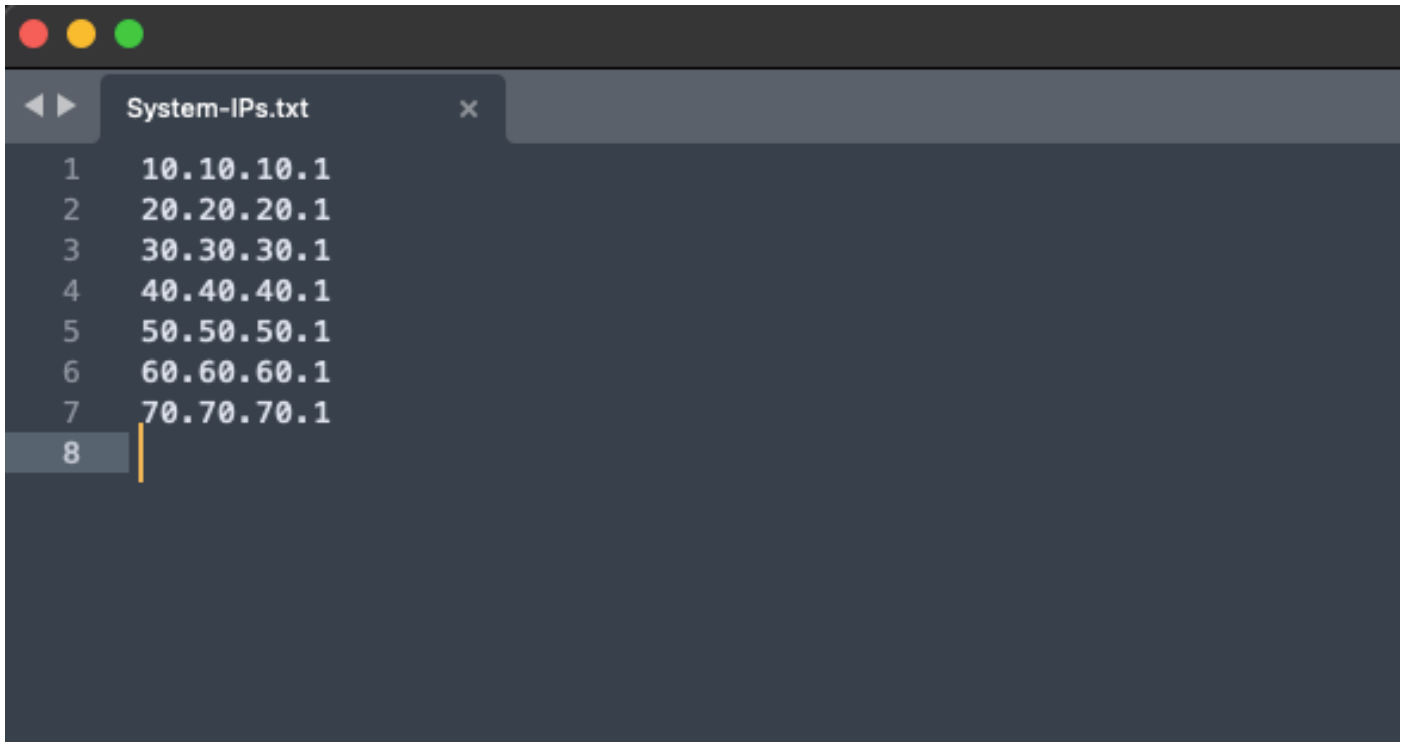
Etapa 2.

Crie um arquivo .txt com todos os endereços IP do sistema dos Cisco Edge Routers para os quais o backup é necessário. Lista de endereços IP do sistema que você pode obter do vManage e exportar arquivo CSV.

É necessário nomear o arquivo como System-IPs.txt e salvá-lo no mesmo diretório que foi criado anteriormente (Backup_cedges).



Chassis Number	Site Name	Hostname	Tags	Config Locked	Managed By	Device Status	Version	Reachability	Site ID	Mode	Actions
CBK-D4105C39-2EAE-2B27-122A-F6C0F72EE1B4	SITE_201	cedge1	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	101	vmanage	...
CBK-121CA2D0-41E6-2217-C121-0EE1B4D0A8AE	SITE_202	cedge2	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	202	vmanage	...
CBK-02E80530-267B-DC53-F8B4-24AF3D4D29D4	SITE_203	cedge3	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	203	vmanage	...
CBK-EE98CF9C-18E7-4714-A579-2DEB43E2DF86	SITE_204	cedge4	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	204	vmanage	...
CBK-62F690FE-0226-F996-485A-EA811A91C2B2	SITE_205	cedge5	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	205	vmanage	...
CBK-76AFD19D-9AFB-1348-E556-F100B790A48A	SITE_206	cedge6	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	206	vmanage	...
CBK-964D392C-E19D-14F7-8E4C-F138BA650C0B	SITE_207	cedge7	Add Tag	Yes	Template CBK-Template-V1	In Sync	1714.01a.0.1470	↑	207	vmanage	...



Etapa 3.

Confirme se o arquivo foi salvo.

```
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 %
```

Etapa 4.

Continue para criar o script. É possível usar vi ou qualquer bloco de notas, basta ter cuidado para salvá-lo com o formato .sh.

```
#!/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"
```

Etapa 5.

Alterar privilégio do arquivo para que ele possa ser executado.

```
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 %
```

Etapa 6.

Execute o script usando o comando `./config_backup_script.sh`. Considere que isso leva algum tempo para ser concluído, dependendo da quantidade de dispositivos.

```
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 Dload	Speed Upload	Time Total	Time Spent	Time Left	Current Speed			
100	7238	0	7238	0	0	1133	0	--:--:--	0:00:06	--:--:--	1761

10.10.10.1

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

20.20.20.1

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

30.30.30.1

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

40.40.40.1

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

50.50.50.1

% Total	% Received	% Xferd	Average Dload	Speed Upload	Time Total	Time Spent	Time Left	Current 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 %

Passo 7.

Por fim, verifique se os arquivos estão lá com o comando ls -l.

```

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 %

```

Verifique o arquivo de configuração.

```

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
```

Se os arquivos estiverem vazios ou com uma mensagem de erro "Solicitação incorreta", verifique o nome de usuário de autenticação e a senha.

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

Se o arquivo mostrar "Nenhum dispositivo encontrado para o IP do sistema", isso significa que o IP do sistema não existe no vManage. Você deve corrigir System-IPs.txt e excluir System-IP incorreto.

```
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 %
```

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