

LAB 1: CẤU HÌNH CƠ BẢN BAN ĐẦU TRONG SDWAN

I. Sơ đồ



Tên thiết bị	Username	Password	Version
vManage	admin	Admin	20.10.1
vBond	admin	Admin	20.10.1





vSmart	admin	Admin	20.10.1
vEdge	admin	Admin	20.10.1
РС		Test123	Windows 10

II. Yêu cầu

Kết nối và cấu hình địa chỉ IP thiết bị theo mô hình, để đảm bảo các địa chỉ IP WAN ở các site có thể thấy nhau.

Cấu hình bring-up SD-WAN controller: vManage, vBond, vSmart.

III. Thực hiện:

3.1. Cấu hình các thiết bị để đảm bảo để bảo các địa chỉ IP WAN ở các site có thể thấy nhau Cấu hình vManage:

config ter
system
host-name vmanage
system-ip 1.1.1.1
site-id 1000
organization-name VnPro
vbond 10.1.1.2
vpn 0
interface eth0
no shutdown
ip address 10.1.1.1/24
tunnel-interface
allow-service all
vpn 512
interface eth1
no shutdown
ip add 192.168.1.1/24
commit and-quit



Cấu hình vSmart:

config ter system host-name vsmart system-ip 1.1.1.3 site-id 1000 organization-name VnPro vbond 10.1.1.2 vpn 0 interface eth0 no shutdown ip address 10.1.1.3/24 tunnel-interface allow-service all vpn 512 int eth1 no shutdown ip add 192.168.1.3/24 commit and-quit

Cấu hình vBond:

config ter system host-name vbond system-ip 1.1.1.2 site-id 1000 organization-name VnPro vbond 10.1.1.2 local vbond-only



vpn 0 interface ge0/0 no shutdown ip address 10.1.1.2/24 tunnel-interface encapsulation ipsec allow-service all vpn 512 int eth0 no shutdown ip address 192.168.1.2/24 commit and-quit

Cấu hình vEdge 1:

conf ter
system
host-name vedge1
system-ip 2.1.1.1
site-id 1
organization-name VnPro
vbond 10.1.1.2
vpn 0
int ge0/0
no shutdown
ip add 10.1.1.4/24
exit
vpn 512
int eth0
no shutdown
commit and-quit



Cấu hình vEdge 2:

conf ter
system
host-name vedge2
system-ip 3.1.1.1
site-id 2
organization-name VnPro
vbond 10.1.1.2
vpn 0
int ge0/0
no shutdown
ip add 10.1.1.5/24
exit
vpn 512
int eth0
no shutdown
commit and-quit

Cấu hình vEdge 3:

conf ter system host-name vedge3 system-ip 4.1.1.1 site-id 3 organization-name VnPro vbond 10.1.1.2 vpn 0 int ge0/0 no shutdown ip add 10.1.1.6/24 exit vpn 512 int eth0 no shutdown



commit and-quit

3.2. Cấu hình bring-up SD-WAN controller: vManage, vBond, vSmart.

Sau khi đã cấu hình cơ bản cho cả 3 thành phần controller trong SD-WAN fabric ta tiến hành promote vManage lên thành CA(Certificate Authority)

- Dùng trình duyệt trên pc (trong sơ đồ lab) login vào vManage: https://192.168.1.1 với username: admin và password: Admin



IV. Kiểm tra:

Kết nối thành công vào vManage.

mPro				0		CÔNG TY TNHH TƯ VẦN VÀ TRUN ĐC: 276 - 278 Ung Văn Khiêm, P.2: ĐT: (028) 35124257 Hotline: 0933	DIC NG TA 5, Q.B 342707	AM C âM C inh T 79 En	Ų CH FIN H hạnh, 1 nail: vr	UYÊ IQC îp Hồ ipro@	N VIỆT VNPRO Chí Minh vnpro.org
Monitor - Overview Cisco SDWA	CONG TY THEH TU VÁN VÁ DICH VU CHUYÉN VIĘT INUGO TÁM THAD U VPIENO DE: 276 - 278 Ung Ván Kleim, 25.0										
← → C ▲ Not secure http	s://192.168.1.1/#/app/monitor2/ove	erview					Ė	☆		-	:
≡ Cisco SD-WAN	Select Resource Gro	up•		Overview	1		\bigcirc	\equiv	0	4	
	Over	view Devices Tunne	s App	olications Security	VPN More · 2						Î
Overview ⁽⁾						l	88	=	250		L
CONTROLLERS		WAN Edges	CERT	IFICATE STATUS	LICENSING	REBOOT					
0 0 vBond vSmart	1 vManage	() Reachable	() Warni 1 Inva	ing lid	() Assigned	0 Last 24 hrs					L
						24 Hours	~	Actio	ins 🗸		
Site Health O	24 Hour	s Good Performing Sit	es 🗸	Tunnel Healt	h ©	24 Hours Latency (ms) V Go	ood Tu	unnel	s 🗸		
	* *	*.				* x = 5					
O Sites					0 Tunnels						
	No Data	to Display				No Data to Display	5 A	م ا	1:07 AM		.

Ở bài lab này chúng ta sẽ dùng vManage làm server chứng thực. Dùng openssl để tạo và ký certificates từ vshell

- Sau khi kết nối thành công vManage ta sẽ tiến hành promote vManage lên thành CA: dùng terminal console trên vManage:

+ Gõ lệnh vshell để vào Shell mode cấu hình openssl: "vshell"

+ Tiếp theo generate key RSA 2048 ta gõ lệnh : "openssl genrsa -out ROOTCA.key 2048"

+ Sau khi đã có key ta sẽ generate 1 ROOTCA ta gõ lệnh: "openssl req -x509 -new -nodes -key ROOTCA.key -sha256 -days 2000 -out ROOTCA.pem"

+ Tiếp theo ta gõ theo tùy chọn, còn không gõ gì thì cứ enter cho qua



- Tiếp theo vào PC (trong sơ đồ lab) SSH vào vmanage với ip: 192.168.1.1

nPro				CÔNG TY TNHH TƯ VẤN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO DC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí Minh DT: (028) 35124257 Hotline: 0933427079 Email: vnpro@vnpro.org
👑 Monitor - Overview Cisco SDWAT 🗙	+			✓ – ∅ ×
← → C ▲ Not secure http	es://192.168.1.1/#/app/monitor2/overvie	W		🖻 🛧 🔲 😩 🗄
≡ Cisco SD-WAN	Select Resource Group	All Sites	Overview	
	Overview	Devices Tunne	els Applications Security VPN More · 2	Î
Overview ⁽⁾		PuTTY Configuration	X	88 \Xi 🖬
CONTROLLERS O O vBond vSmart	v 1 (vManage R	Session Logging Terminal Keyboard Bel Features Window Appearance Behaviour Translation	Basc options for your Puil I * session Basc options for your Puil I * session Host Name (prIP address) Port 192.168.1.1 22 Connection type:	REBOOT O Last 24 hrs
		Colours	Default Settings Load	24 Hours ✓ Actions ✓
Site Health $^{\odot}$	24 Hours	Data Proxy SSH Serial Telnet Rlogin SUPDUP	Save Delete	24 Hours Latency (ms) ✓ Good Tunnels ✓
	**	About	Open Cancel	* x *
0 Sites			O Turmets	
	No Data to	Display		No Data to Display
🖷 🔎 🛱 💽 関	🐸 💽 🛃			∧ ⊕ € d _# ^{11:10} AM

+ Ta vào shell mode với lệnh **vshell** gõ lệnh: **cat ROOTCA.pem** để đọc chứng chỉ số, sau đó ta copy chứng chỉ số đó từ begin đến end

₽ 192.168.1.1 - PuTTY	_	×
vmanage# vshell		^
vmanage:~\$ cat ROOTCA.pem		
DEGIN CERTIFICATE		
PIIDDICCAIWGAWIDAGIOVGZGRAGUD/IILQCIDIZHJOHPS6CWDQIOKOZINVCNAQEL		
DAYDVOOKDAVWTIBSTZEIMAKAAIUEDINKOVKAKDGNVDAGNAUONDIIENIAOGAIUEDWWDDENNAQYW		
DATDYQQRDAVWTIDSTZELHARGATOECWWCSYQWHICNAJIWAJIZHTEWODOWWHCNAJJQX MAEZMTEWODUWWABGMOGWCOYDVOOCEWWTAEMMAGCATUECAWDSENNMOWWCGYDVOOH		
DANIOOONDIAMBANVBAOMBVZOUEJEMONIJEHHAOGAIDECAWDBENNNOWWCGIDVQQII		
AOFBBOADgagEPADCCAOoCagEBATOMekOofTWaRNm2GfMwTrXk0Uw6mAEJHXWiT6ic		
Xzkm9x3X9930bk9KDbn3FHiMw0i63o4kHdNcBzHNadiid6S7veIa8VD+FflNnv0N		
iZ6AEzxvdvnZkvMK6ScvzIzfwLghDEJY0mP4Vk5AckcXClbU6fAklfWxeNTiAbeF		
by 3b2Xrt kH6iVafaRnF9PXd9wTo1T0uDWDVd8012aLt8bn0Ko2D022Bo2snXa5Nf		
BT47iDvH0YBz9b8B8xM0UxrceUpe4asJei+BHiTe9KTTGiAb60cG9PYfHITJFx8e		
/S8vOGHzOirrtT4eO4FtrfFtBkPR/ln49P+Bh3WMOKviLBFC2wFAAaNTMFFwHOVD		
VR00BBYEFHxVS/dKiRXVuisF+HkuHAodgiPgMB8GA1UdIw0YMBaAFHxVS/dKiRXV		
uisE+HkuHAodai PaMA8GA1UdEwEB/wOFMAMBAf8wDOYJKoZThwaNAOELBOADaaEB		
AE5sYb1rNNsdtC1+rHA04pzMaW9i05v1N1To0/WLKPi2iX+PW9sOiUhTba/apRwP		
cou6tcleb/LZWRBRMTGPaC6/F+NzXcXI//AKiVaO17P16N5stRYUWE9CFk3+tK3/		
Wgia/HisRv0WXAHO8ic0mDN1bM6/LfJXOJMUksWzHbCG8cJ/P8GFcaNFY638Wzp3		
kVg+TOzo/m5rmxJrLKGK8bCpaZYpXRvJOX5hP/KvudG+BeT4xWYSYvNrv+31wPe2		
Rnfljl0kSdhGFGsJxw7GoiYUfgHgnwvlvLF4ntIuxoTngRKP/wgvBFJCcHicSGuA		
z9Jg4b9I1CNLHiGbm+JPnTO=		
END CERTIFICATE		
vmanage:~\$		~

- Sau đó ta vào Administration \rightarrow Setting \rightarrow Controller Certificate Authorization \rightarrow chọn Enterprise Root Certificate rồi paste vào Certificate chọn Import & Save

Website: www.vnpro.vn | Forum: www.vnpro.org | Video: https://www.youtube.com/@vnpro149



 TRUNG TÂM TIN HỌC VNPRO

 ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Bình Thạnh, Tp Hồ Chí Minh

DT: (028) 35124257 | Hotline: 0933427079 Email: vnpro@vnpro.org

43 🔲 🕸 💋 💶 🕒 🚯 🕃						
🐝 Monitor - Overview Cisco SDWA1 🗙	+					~ - 0 ×
← → C ▲ Not secure http:	s://192.168.1.1/#/app/monitor2/overview					🖻 🖈 🔲 😩 :
Cisco SD-WAN			Overview			
\sim Monitor	> Settings	nnels Ap	plications Security	VPN More · 2		
ိုပ္ပို Configuration	Manage Users					88 😑 🔛
💥 Tools	Cluster Management Integration Management	CER	TIFICATE STATUS		REBOOT	
谷 Maintenance	> Root CA Management	0 Warr	ning	0 Assigned	0 Last 24 hrs	
	Disaster Recovery VPN Groups	1 Inv	alid			
🔎 Workflows	> Colo Groups				24 H	ours 🗸 Actions 🗸
Reports	VPN Segments	Sites 🗸	Tunnel Healtl	n ©	24 Hours Latency (ms) \checkmark	Good Tunnels ∨
C Analytics	License Management Resource Group				* * *.	
				0 Tunnels		
A admin Sign C	Dut				No Data to Displa	ау
https://192.168.1.1/#/app/administration/settin	gs		_		-	-
📕 🔎 🖬 💽 肩	ڬ 🧿 🗳					^ ⊕ ⊕ 4 8 6/26/2023 ♥
dth Administration - Settings Cisco SI 🗙	+					~ - 0 ×
← → C ▲ Not secure https	x//192.168.1.1/#/app/administration/settings					🖻 🖈 🔲 😩 :
≡ Cisco SD-WAN	Select Resource Group•		Settir	igs		△ ≡ ⊘ ₽
Administration S	Settings					•
Controller Certificate Authori	zation Cisco					
Certificate Signing by: O Cisco	o (Recommended) O Digicert O Manual	 Enterprise Root Ce 	rtificate			
Certificate						Select a file
DANIQODXDJAMBgIVBAOMBVZOU DANIQODXDJAMBgIVBAOMBVZOU AQEBBQADggEPADCCAQCGgBE Xzkm9x3Y930b4KDtn3FHJMvC JZ6AFzxydvnZkyMK6ScyztzfvLqhL bx3b2XftKH6JydfqRsF9zdzMvIDT BT47JDyHQYBz9b8B&MQUxrceU	or equication of painteende in USCAIN Development InFIMQewCQTVVQQLDAJ.VDCCASINDQYIKAZIInvoh IAIOMekQQTVVgRNmZKMwTXK0Uv6mAZHXVNlig IgöaAktHalteShiNqjidisSYselaVb eFtINygoN SEJYQmP4Vk5AckcXCInU6fAk1fWxeNTJAheE QUWDVdBQ1AqLtBinOK02002Aba5NaSNf peda.sule AbiliteKilGiAb80cG89YtNITJFX88	Daddii.				
/SPyOGH2QimT4eQ4EHFR8PRPU VR00BYEFHxV5(d)QFHku ujF+HkuHAdqHpMA8GA1UdE AE5sYb1Nh3dCi+HAAQ2MAWY qCUEig1eb/LZWR8PMGPaCFH_ WgjjaH3R-WVXAFQ5cmONIbM kVg_1Q2g/mSmw.JLKGKBCpaCF Rn(I) 0x6smGFGa1.wv7 GNUGPGFGL0WAGAU 29.Jqdb9ICNLHGbm+JPhTC= ====FDC GPTEFICAFT====	p499-BosyMOKOJLEECANEAAATIMEEMHOYD UHAodqipAbBGAI UhdiwYMBaAFHXYS/GHZRW EEIwoCFMAMBAT8WOQYLICoZhwcNAQELBQADagEB BoyNi 100/WLRZyJX-RWB3QUIHAIagRAW N2X3QJ/XA(VNO17P1 FM588H7UWE9CFK3+K3/ HG.LUXA,JULUexHECOBL/PBGCAHYC38Wp23 (pXRAUQX5hP/KyudG+BeT4xWYSYyNn+3h/Pe2 nwr1vLF4ntluxoTngRKP/yagABFJCCHicSGuA					
Set CSR Properties						
Set CSR Properties Import & Save	Cancel					
□ Set CSR Properties Import & Save	Cancel					

Ta chỉnh lại :

+ Organization name: "VnPro"

mPro			CÔNG TY TNHH TƯ VẤN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tọ Hồ Chí Minh DT: (028) 35124257 Hotline: 0933427079 Email: vnpro@vnpro.org	
+ Vbond: " 10.1.1.2 "				
dt Administration - Settings Cisco SI × +	Administration - Settings Cisco S 🗙 +			
← → C ▲ Not secure https://192.168.1.1/#/app/administra	ation/settings		ピ ☆ □ 🚨 :	
■ Cisco SD-WAN ② Select Resource G	iroup▼	Settings		
Administration Settings				
Organization Name	VnPro		View Edit	
vBond	10.1.1.2 : 12346		View Edit	
Alarm Notifications	Disabled		View Edit	
Hardware WAN Edge Certificate Authorization	Onbox		View Edit	
Controller Certificate Authorization	Enterprise		View Edit	
WAN Edge Cloud Certificate Authorization	Automated		View Edit	
Certificate Revocation List	Disabled		View Edit	
Web Server Certificate	18 Jun 2026 2:34:11 PM		CSR Certificate	
Enterprise Feature Certificate Authorization			View Edit	
Umbrella DNS Certificate			View Edit	
Enforce Software Version (ZTP)			View Edit	

==> vManage đã được promote lên thành CA

- Dùng vManage để ký chứng thực cho vManage, vSmart, vBond.

Vmanage

+ Truy cập vào giao diện web để tạo một yêu cầu ký chứng thực

+ Configuration \rightarrow Certificates \rightarrow Controllers \rightarrow vManage \rightarrow Generate CSR $d\hat{e}$ tạo file vmanage csr

CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT

TRUNG TÂM TIN HỌC VNPRO

ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Bình Thạnh, Tp Hồ Chí Minh **Đ**T: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org



						ĐT: (028) 35124257 Hotline: 09	334270	79 E.m.	iii: vn	.pro@vn
🗱 Configuration - Certificates Cisco 🗙	+							~	-	٥	×
← → C ▲ Not secure ht	tps ://192.16	8.1.1/#/app/config/certificates/vedgelist	_					Ê	\$		a :
Cisco SD-WAN					Certificates			\bigcirc	\equiv	?	4
			ge List	Controllers	TLS Proxy						ŕ
Monitor		Devices									
Configuration	>	TLS/SSL Proxy									
. 🛠 Tools	>	Certificates								3	
		Network Design					Total Rows:) (⊻ ژ	\$ <u>\$</u>	
solution internance		Policies	Enterp	orise Cert Serial N	o Certifi	icate Expiration Date	Subject SUDI serial #		Action		
Administration		Security	No da	ta available							
Workflows		Network Hierarchy									
Reports		Unified Communications									
Analytics		Cloud onRamp for SaaS									
1		Cloud onRamp for laaS									
-		Cloud onRamp for Multicloud									
		Cloud onRamp for Colocation									
- - -											
🛆 admin Sigr	Out										
Https://192.168.1.1/#/app/config/certificates	/vedgelist	9					^	@ €	d <mark>⊗</mark> 6/2	21 AM	
the Configuration - Certificates Cisco ×	+							~	-	٥	×
← → C ▲ Not secure ht	tps ://192.168	8.1.1/#/app/config/certificates/controller						È	☆		1 :
≡ Cisco SD-WAN	⊙ s	elect Resource Group+			Certificates			\bigcirc	Ξ	0	4
							last		lificato		Â
							Inst	all Cen	uncate		
		v	/AN Edge List	Controllers	TLS Proxy						- 1
Send to vBond											
Q Search									7	7	
							Total Rows:	i ƙ	₹ ₹	ŝ	
> Operation Status	Controller T	ype Hostname Syste	m IP S	ite ID Certi	ficate Serial	Expiration Date	uuid vEdge Lis.	. Devic	a		
> N/A	vManage	vmanage 1.1.1	.1 1	000 No c	ertificate installed	-	2f3ef Sync	1.1.1			
								Vie	w CSR	feete	
								Ge	nerate	CSR	, lmj
								Re: Inv	set RSA alidate		Ŭ
🖪 🔎 📑 👧 📒	6						_	ē #	11: 4 <mark>8</mark>	20 AM	, L

Website: www.vnpro.vn | Forum: www.vnpro.org | Video: https://www.youtube.com/@vnpro149

npro			ĐC : 276 - 278 Ung Va ĐT : (028) 35124257	n Khiêm, P.25, Q.Binh Hotline: 0933427079 E	Thạnh, (mail: y	npro	@vi
Configuration - Certificates Cisco 🗙	+			~	-	٥	1
→ C ▲ Not secure http	s://192.168.1.1/#/app/config/ce	lificates/controller		Ê	☆		-
≡ Cisco SD-WAN	Select Resource G	roup • Certificates		\bigcirc	1	0	l
		CSR	×	Install Cer	tificate	,	
Send to vBond		ID Address: 1111					
Q Search		IP Address: 1.1.1.1 Downloa	ad				
Controller Type H	ostname System	BEGIN CERTIFICATE REQUEST MIIDRzCCAIBCAQAwgcYxCzAJBgN/BAYTAI/VTMRMwEQYDVQQIEwpDYWxpZ m9ybmlh	Certificate Serial	Total Rows: 1	° ⊒ ±		
> vManage v	nanage 1.1.1.1	MRBRUWI DVCUREMII TWAISHISZI EDWAWGA (CEUMIPVIIGURIGY)DV0g NVBACTUNK) c2NVIFN653RibXMX28BBgNVBAMTOn2YWSh22UtMmYzZWYM2YND0iMyO ONGY4 LWI2NTEIZDQxNVIWYTVIMbILTAudmiwdGvSSpj220xjAgBgkqhkiG9w0BCQE W E3N1 HBvcnRAdmiwdGvSYSjb20wggEMA0GCSqGSib3DQEBAQUAAIBDw AwggBt A0BAQDACUbRd4RaWNGAqMqSLLNWavUHxvxmnM1HyXV4A9VGVAOSn pieLu60	No certificate installed	Sync 1.1.	1. ••••		

Sau khi tạo xong file csr, ta dùng khóa ROOTCA.key để ký file vmanage_csr ta vừa tạo ra với câu lệnh như sau: openssl x509 -req -in vmanage_csr -CA ROOTCA.pem -CAkey ROOTCA.key -CAcreateserial -out vmanage.crt -days 2000 -sha256 ==> tạo file vmanage.crt Kiểm tra kết quả là: đã ký thành công



- Ta vào trong PC (trong sơ đồ lab) vào putty gõ địa chỉ **192.168.1.1** rồi SSH Dùng lệnh **cat vmanage.crt** để đọc file *vmanage.crt*



- Và cài đặt chứng thực trên giao diện web: Configuration \rightarrow Certificates \rightarrow Controllers \rightarrow Install Certificate:

👑 Configuration - Certificates Cisco 🗙	+							~	- 6	×
← → C ▲ Not secure htt	tps ://192.16	8.1.1/#/app/config/certificates/controller						Ê	☆ 🔲	. :
Cisco SD-WAN					Certificates			\bigcirc	≡ ⊘	4
🥢 Monitor		Devices						Install Cert	ificate	
°¦° Configuration		TLS/SSL Proxy	ge List	Controllers	TLS Proxy					
💥 Tools		Certificates Network Design								
දිිුි Maintenance		Templates							Y	- 1
Q. Administration	>	Policies						Total Rows: 1	∜ ±‡	. 1
		Security		uuid	Operation Status	Site ID	Certificate Serial	vEdge Lis Devic		. 1
C Workflows		Network Hierarchy		2f3ef	CSR Generated	1000	No certificate installed	Sync 1.1.1	. •••	. 1
- Reports		Unified Communications								. 1
Analytics		Cloud onRamp for SaaS								- 1
		Cloud onRamp for laaS								. 1
		Cloud onRamp for Multicloud								- 1
		Cloud onRamp for Colocation								. 1
										. 1
										- 1
🛆 admin Sign	Out									
≡ ○ ≡	۵							^ @ €	11:24 AM 6/26/2023	, 🖵

Website: www.vnpro.vn | Forum: www.vnpro.org | Video: https://www.youtube.com/@vnpro149



Kiểm Tra: Đã xác thực thành công vManage

C A Not secure H#psp://192.168.1.1/#/app/device/status?activity=install_certificate8pid=132f9ea1-6877-4fd2-8879-77d4478b978c Image: Secure 1 Imatal Certificate Initiated By: admin From: 19 Install Certificate Initiated By: admin From: 19 Initiated By: admin Initiated By: admin From: 19 Initiated By: admin Initiated By: admin From: 19 Initiated By: admin Initiated By: admin Initiated By: admin Initiated By: admin Initiated By: admin Initiated By: admin Initiated By: admin Initiated By: admin Message </th <th>Image IP 1.1.1.1</th>	Image IP 1.1.1.1
Image: Cisco SD-WAN Image: Select Resource Group+ Image: Image: Cisco SD-WAN Image: Select Resource Group+ Image: Image: Image: Cisco SD-WAN Image: Select Resource Group+ Image: Ima	C) Ξ ③ L Initiated By: admin From: 192.168.1.100 VManage IP 1.1.1.1 1.1.1.1 ••••••••••••••••••••••••••••••••••
Initiate By: adm Initiate By: adm From: 19 Color Search Total Task: 1 Success : 1 Total Task: 1	Initiated By: admin From: 192.168.1.100
Casech Total Rows: 1 * Status Message Device Type Device ID System IP vManage IP * Status Message Device Type Device ID System IP vManage IP * Status Message Successfully synced vEdge list vManage 2f3ef136-47b3-44f8-b351-d41.5b365496 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Started processing serial list file on vManage-2f3ef136-47b3-44f8-b351-d415b0365936 (vmanage) [26-Jun-2023 11:26:120 UTC] Completed processing serial list file on vManage-2f3ef136-47b3-44f8-b351-d415b0365936 (vmanage) [26-Jun-2023 11:26:120 UTC] None + Update 7f3ef136-47b3-44f8-b351-d415b0365936 (vmanage) [26-Jun-2023 11:26:120 UTC] Successfully synced vEdge list on vManage-2f3ef136-47b3-44f8-b351-d415b03593 (vmanage) [26-Jun-2023 11:26:120 UTC] Successfully synced vEdge list on vManage-2f3ef136-47b3-44f8-b351-d415b03594 (vmanage) [26-Jun-2023 11:26:120 UTC] Successfully synced vEdge list on vManage-2f3ef136-47b3-44f8-b351-d415b03594 (vmanage) [26-Jun-2023 11:26:120 UTC] Successfully synced vEdge list on vManage-2f3ef136-47b3-44f8-b351-d415b03594 (vmanage) [26-Jun-2023 11:26:120 UTC] Successfully synced vEdge list o	VManage IP
Q Search Total Rows: 1 Y Status Message Device Type Device ID System IP VManage IP Y Success Successfully synced vEdge list vManage 2f3ef136-47b3-44f8-b351-d4 1.1.1.1 1.1.1.1 1.1.1.1 Zé-Jun-2023 11:26:20 UTC] Started processing serial list file on vManage-2f3ef136-47b3-44f8-b351-d415b085e39c (vmanage) 2f3ef136-47b3-44f8-b351-d415b085e39c (vmanage) 2f3ef136-47b3-44f8	VManage IP
Status Message Device Type Device ID System IP vManage IP * Success Successfully synced vEdge list vManage 2f3ef136-47b3-44f8-b351-d4 1.1.1.1 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Status for vManage-2f3ef136-47b3-44f8-b351-4415b85896 (vmanage) 1.1.1.1 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Status for vManage-2f3ef136-47b3-44f8-b351-4415b85896 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Dome = Vpsh vSmart List for vManage-2f3ef136-47b3-44f8-b351-4415b85896 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Dome = Vpsh vSmart List for vManage-2f3ef136-47b3-44f8-b351-4415b8b8596 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Dome = Vpsh vSmart List for vManage-2f3ef136-47b3-44f8-b351-4415b8b8596 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Dome = vpsh vSmart List for vManage-2f3ef136-47b3-44f8-b351-4415b8b8596 (vmanage) 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Noneu updates to be sent to device 1.1.1.1 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:120 UTC] Noneu updates to be sent to device 1.1.1.1 1.1.1.1 1.1.1.1	Total Rows: 1 🔗 🔅 VManage IP 1.1.1.1
Status Message Device Type Device ID System IP vManage IP * Success Successfully synced vEdge list vManage 2/3e/136-47b3-44f8-b351-d4 1.1.1. 1.1.1.1 [26-Jun-2023 11:26:12 UTC] Completed processing serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] Completed processing serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] Completed processing serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] None + Dynts vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] None + Update serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] None + Update serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] None + Update serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] None + Update serial list file on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) [26-Jun-2023 11:26:12 UTC] Successfully synced vEdge list on vManage-273ef136-47b3-44f8-b351-d415b08599c (vmanage) Immediate series	vManage IP 1.1.1.1
Success Successfully synced vEdge list vManage 2f3ef136-47b3-44f8-b351-d4 1.1.1.1 1.1.1.1 [26-Jun-2023 11:26:12 UTC] Started processing serial list file on vManage-2f3ef136-47b3-44f8-b351-d415b0a5e39c (vmanage) 1	1.1.1.1
<pre>[26-Jun-2023 11:26:20 UTC] Started processing serial list file on vManage-2f3ef136-47b3-44f8-b351-44150da5e39c (vmanage) [26-Jun-2023 11:26:21 UTC] Completed processing serial list file on vManage-2f3ef136-47b3-44f8-b351-44150da5e39c (vmanage) [26-Jun-2023 11:26:21 UTC] Done - Push vSmart List for vManage-2f3ef136-47b3-44f8-b351-44150da5e39c (vmanage) [26-Jun-2023 11:26:21 UTC] Pushed serial list to vManage-2f3ef136-47b3-44f8-b351-d4150da5e39c (vmanage) [26-Jun-2023 11:26:21 UTC] No new updates to be sent to device [26-Jun-2023 11:26:21 UTC] Successfully synced vEdge list on vManage-2f3ef136-47b3-44f8-b351-d415bda5e39c</pre>	* *

VBond

Vào Configuration \rightarrow Device \rightarrow Controller \rightarrow Add controller

CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT

 TRUNG TÂM TIN HỌC VNPRO

 ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí Minh



- Cấu hình vbond Management ip adress: 10.1.1.2, username: admin, password: Admin

Configuration - Devices Cisco SD	× +			ĐT : (02	28) 35124257 Hotline:	0933427079 Email: vnpro@vr
→ C ▲ Not secure	https://192.168.1.1/#/app/o	config/devices/co	ntroller			ie 🖈 🗖 😩
E Cisco SD-WAN	Select Res	ource Group•	Devices			
			WAN Edge List Controllers			
Q Search Add Controller ~ Cha	nge Mode ∽	F	Add vBond	Н		
Controller Type Hos	tname	System-ip	vBond Management IP Address* 10.1.1.2	Draft Mode	Total Device Status	Rows: 1 💭 ⊻ 🏠 Certificate S
vManage vm.	anage	1.1.1.1	Username* admin Password*q	Disabled	In Sync	Installed •••
		L	Cancel Add			

Kiểm tra: xuất hiện vbond

	-WAIN () Selec	ct Resource Group	•			Devices			\bigcirc	= 0	D
				WAN Edge List	Controll	ers					
Q Search										∇	
Add Controller ~	Change Mode ∨										
								т	otal Rows: 2 🦪	+ ©	3
Controller Type	Hostname	System-ip	Site ID	Region ID	Mode	Assigned Template	Draft Mode	Device Status	Certificate S		
Bond	-	-	-	-	CLI	-	Disabled		Not Installer		
Manage	vmanage	1.1.1.1	1000	-	CLI	-	Disabled	In Sync	Installed		



- Tạo file vbond_csr bằng cách chọn Generate CSR

	+					v - 0	×
← → C ▲ Not secure ₩	ttps://192.168.1.1,	/#/app/config/certificate	es/vedgelist			ie ☆ 🛛 🛓) I
Cisco SD-WAN				Certificates			4
′ ∣∼ Monitor	, D	evices	ge List	Controllers TLS Proxy			
	т	LS/SSL Proxy					
	c	ertificates				∇	
. 💥 Tools	> _N	letwork Design				Total Rows: 0 📿 🛓 🐯	
දරූදි Maintenance		emplates	Enterpris	e Cert Serial No Cer	rtificate Expiration Date	Subject SUDI serial # Action	
Administration	> ^P	olicies	No data	available			
୍ଦ୍ର Workflows	> s	ecurity					
- 		letwork Hierarchy	ane				
I (D) Analytics	> C	loud onRamp for Sa	aS				
	с	loud onRamp for laa	aS				
-	с	loud onRamp for Mu	ulticloud				
	c	loud onRamp for Co	olocation				
A admin Sigr	n Out s/vedgelist						
📕 🔎 🛱 🧔 📕	i					∧ ⊡ ⊕ 4 11:21 AM 6/26/2023	\Box
Configuration - Certificates Cisco 🗙	+					· – Ø	×
← → C ▲ Not secure ₦ŧ	tps ://192.168.1.1/	#/app/config/certificate	s/controller			ie 🖈 🗖 😩) :
≡ Cisco SD-WAN	🕐 Selec	ct Resource Group		Certificates			4
						Install Certificate	-
			WAN Edge List	Controllers TLS Proxy		Install Certificate	A
Send to vBond			WAN Edge List	Controllers TLS Proxy		Install Certificate	
Send to vBond			WAN Edge List	Controllers TLS Proxy		Install Certificate	Å
Send to vBond Q Search			WAN Edge List	TLS Proxy		Install Certificate	
Send to vBond Q. Search			WAN Edge List	TLS Proxy		Install Certificate ✓ Total Rows: 2 ✓ ▲	
Send to vBond Q Search > Controller Type I > vBood	Hostname	System IP	WAN Edge List	uuid Operation Status	Site ID Certificate Ser	Install Certificate	
Send to vBond Q Search > Controller Type > vBond 	Hostname	System IP -	WAN Edge List Expiration Date	Unit Operation Status 34a18 CSR Generated	Site ID Certificate Ser - No certificate I	Install Certificate Total Rows: 2 ♀ ▲ ♦ iat vEdge Lis Devic- nstalled Sync 10.1. ACGEEA6 Suma View CSR	A
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	Uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate 1 1000 1682912BA80	Install Certificate Total Rows: 2 2 4 3 4 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4	
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	Uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate I 1000 1682912BA80	Install Certificate Total Rows: 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1)
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	Uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate 1000 1682912BA80	Install Certificate Total Rows: 2 2 2 2 2 3 ial v£dge Lis Devici- nstalled Sync 10.1; AC965A6 Sync View CSR View CSR View CSR View CSR Invalidate)
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	Controllers TLS Proxy uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate i 1000 1682912BA80	Install Certificate Total Rows: 2 2 2 2 ial vEdge Lis Devicion nstalled Sync 10.1.1 AC965A6 Sync View CSR View CSR View CSR View CSR View CSR View CSR View CSR View CSR Note Certificate Generate CSR Invalidate)
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	ILS Proxy uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate 1000 1682912BABC	Install Certificate Total Rows: 2 C ▲ (2) Ial vEdge Lis Devicinate Installed Sync 10.1 AC965A6 Sync View CSR View Certificate Generate CSR Reset RSA Invalidate)
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	Controllers TLS Proxy uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate i 1000 1682912BA80	Install Certificate Total Rows: 2 2 2 2 Ial vEdge Lis Device nstalled Sync 10.1 AC965A6 Sync View CSR View CSR View CSR View CSR Niew CSR Niew CSR Novel Certificate Generate CSR Invalidate)
Send to vBond Q Search > Controller Type > vBond > vManage	Hostname - vmanage	System IP - 1.1.1.1	WAN Edge List Expiration Date - 16 Dec 2028 6:23:00 PM +07	ILS Proxy uuid Operation Status 34a18 CSR Generated 2f3ef vBond Updated	Site ID Certificate Ser - No certificate 1000 1682912BA80	Install Certificate Total Rows: 2 Total Rows: 2)

mPro			CÔNG TY TNHH TƯ VẤN VÀ DỊCH VỤ CHUYÊN VÌ TRUNG TÂM TIN HỌC VNP ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí M ĐT: (028) 35124257 Hotline: 0933427079 Email: vnpro@vnpro
Configuration - Certificates Cisco 🗙 –	F		~ - @ ×
→ C ▲ Not secure https://	/192.168.1.1/#/app/config/certificates/	/controller	ê ☆ 🛛 💄 :
E Cisco SD-WAN	♦ Select Resource Group •	Certificates	
	C	SR	Install Certificate
Send to vBond			
Q Search	IP A	ddress: 10.1.1.2	∇
Controller Type Hostr	name System Mi	Download GentificAte Request IDRTCCARGAQAwgcQxc2AJBgNVBAYTAIVTMRMwEQYDVQQIEwpDYMxpZ yomh worksetsetsetsetsetsetsetsetsetsetsetsetsets	Total Rows: 2 🔗 ± (함) Certificate Serial vEdge Lis Devici
> vBond -	- NV c2	/BAoTDUNp NVIFN5c3RlbXMxQTA/BgNVBAMTOHZlb25kLTM0YTE4NmZhLTM1NzktNGY4	No certificate installed Sync 10.1.* ***
> vManage vman	zs age 1.1.1.1 Yil z dx gK AcC UZ	us JUMISTETENI,kwY2JkYS0xLnZpcHRIbGEuY29MSIWAXJKozIhvcNAQkBFhN IBwb3JJQHZpcHRIbGEuY29MIIIBIJANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBC C 2EAIdAFFQ1MJ0Jh9I+Jck44/2ffyhW3vtEXRUC/cMHh/1WcO5p9mL3x5kWqu	16829128A80AC965A6 Sync 1.1.1. ***

- Vào consle vbond gõ cat vbond_csr và copy chứng chỉ số từ begin đến end

- Sau đó qua console vmanage tạo file *vbond_csr* bằng câu lệnh: **vim vbond_csr** dán chứng chỉ số vừa copy ở vbond bằng cách gõ **i** rồi kich chuột phải đế dán, sau đó gõ **esc :wq** để thoát ra.



			1080 V 2 V 1072
VBond	_		×
File Edit View Options Transfer Script Tools Window Help			
🖏 💱 🗔 🎲 💥 Enter host <alt+r> 🗈 🏝 👬 👍 😼 🦪 🚰 🐝 📍 🎯 🚮</alt+r>			
🛩 vManager 🖌 vBond 🗙 💿 vSmart 💿 vEdge1 🔃 vEdge2 🖌 vEdge3			4 ₽
vbond login: admin			^
Password:			
Last login: Mon Jun 26 11:33:38 UTC 2023 from 10.1.1.1 on	ssh		
Welcome to Viptela CLI			
User admin last logged in 2023-06-26T11:33:38.440876+00:0), to	vbo	n
d, from 10.1.1.1 using netconf-ssh			
admin connected from 127.0.0.1 using console on vbond			
vpond# vsnell			
VDONG:~> CAU VDONG_CST			
MITDERCAIL CERTIFICATE REQUEST	nauhm	15	
MPELDRICCALOCAQAWGCQXCZAOBGNVBAIIAIVIMRMwbQIDVQQIbwDDIWADAI MPELDWVDWOOUFwbTVW4aSm9z7TFOMAwCA1UFCyMFWm50cm8yFiAUBaNWD	лотри	Np	
$c_2NvTFN5c_3R1bXMxOTA/BaNVBAMTOHZib25kLTM0YTF4NmZbLTM1NzktNi$	SY47.S	05	
YiUILWI57TEINikwY2JkYS0xLn7pcHR1bGEuY29tMSTwIAYJKo7ThycNA	Dr 120 DkBFh	Nz	
dXBwb3J00HZpcHR1bGEuY29tMIIBIiANBgkghkiG9w0BAOEFAAOCAO8AM	IIBCa	KC	
AQEAtdAFFQ1MJ0jh9i+Jck44rZffyhW3vttEXRUC/cMHh/1WcO5p9mL3x	5kWqu	U2	
g7rCkxlmy/ax7AuTDPrbbVoRsX+0kR7ZgNEjMH+tt3VRmkgEE6EhJCYcU	VndY1	Br	
zws0VoOIV2RlEN4lliEpIefDIkWQth1IL61rYwbV5cB4DdPryIwDBsgXS	cmIf/	lk	
t6XvMTxlQOFTzgYJ4fecGzsspH75mPOletiiGXKOb6SwzP+ajot4nJgGQ0	GE5/e	Hx	
KG4vs6edARVIR6/YyeJuP2I2nRCR2GQnEwFTZbn5w/TCAzahD0NJcnNzul	MTfoI	9L	
ZceVVP4/oYkClx4MRBc7702S3QIDAQABoDswOQYJKoZIhvcNAQkOMSwwK	jAJBg	NV	
HRMEAjAAMB0GA1UdDgQWBBTjtbL/Bwu3/gpv9HzGp7mCpfBsszANBgkqh	kiG9w	0B	
AQsFAAOCAQEAob7kEp9TGtsIeTAby4Nk9EweOV+xxQp3qWr7wtt3Tiuth	GA3CQ	6h	
jzN3OFaX8bCWfyx0NEQTyW4VCrebik6piyUoUf3LKEr+PDuOKTbfmtT1U	rbFB2	2 Z	
hHU1KmsdVLN2HjcYiaE3psa4dYtrQuPJ/LM1sqLbnPWGO340eTnLCkVre	ypot8	NA	
Qsuv81xqZDs+aw1/Q1TWcFanNGdr13T1FZ4uTtLKZTIgGLCv5QEKEQx93	+wcJG	pb	
UdDug49J8kwgkuyUnrU89V3e2+dnop9ctdEDY1AX1aFDM/1rULe5xuDwU.	LAGLZ	MT	
CEVIWLIOIOSULOMVAJDSML+EKOIOJE+LUQ==			
whond .~ S			
		CAD N	×
Leiner' 10/15/2/145 30 10 30 Rows 67 (ols - V1100		LAP N	JIVI -

vmanage:~\$ vim vbond csr



- Tiếp tục ở console vmanage dùng câu lệnh: "openssl x509 -req -in vbond_csr -CA ROOTCA.pem -CAkey ROOTCA.key -CAcreateserial -out vbond.crt -days 500 -sha256" để chuyển file vbond csr sang vbond.crt

```
vmanage:~$ openssl x509 -req -in vbond_csr -CA ROOTCA.pem -CAkey RO
reateserial -out vbond_crt -days 500 -sha256
Signature ok
subject=C = US, ST = California, L = San Jose, OU = VnPro, O = Cisc
o Systems, CN = vbond-34a186fa-3579-4f8e-9b55-b9e15690cbda-1.viptel
a.com, emailAddress = support@viptela.com
Getting CA Private Key
vmanage:~$
```

mPro								CÔNG TY TNHH TƯ VẤN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO ĐC: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chỉ Minh ĐT: (028) 35124257 Holline: 0933427079 Email: vnpro@vnpro.org
vmanage:~\$	1:	s -l						
-rw		admin	admin	1700	Jun	26	11:08	ROOTCA.kev
-rw	1	admin	admin	1249	Jun	26	11:08	ROOTCA.pem
-rw	1	admin	admin	41	Jun	26	11:40	ROOTCA.srl
-rw-rr	1	admin	admin	566	Jun	26	10:03	archive_id_rsa.pub
-rw	1	admin	admin	1298	Jun	26	11:40	vbond_crt
-rw	1	admin	admin	1212	Jun	26	11:40	vbond_csr
-rw	1	admin	admin	1302	Jun	26	11:23	vmanage.crt
-rw-rr	1	root	root	1212	Jun	26	11:22	vmanage_csr
vmanage:~\$								

- Vào PC (trong sơ đồ lab) ssh vào vmanage, dùng cat vbond.crt để copy chứng chỉ số



- Sau đó vào giao diện trên web vmanage chọn Install Certificate

		÷					~	- 0	
\rightarrow C	A Not secure https:/	/192.168.1.1/#/app/co	nfig/certificates/contro	ler			Ŕ	* 🛛 🕯	
≡ Cisc	o SD-WAN	🔆 Select Reso	urce Group•	С	ertificates		\bigcirc	0	Ĺ,
Send to vi	Bond		Insta	Il Certificate	×		Install Cer	tificate	
Q Sear	rch		Certificate oykcix4P Yti/Qcl Bi2xsUPY Ybi	Text RHC // UZS 3CILIAQABMAUGUS qUSIB 3UQ BBC 5d0]0 + 55WBrvHaGPmbRoBBACL m3Ln + 1 o TKG	Select a File WUAAAIBAQBMWEUOF vy88F5SDkNVIIRah06 WeeQeecQpuD3EFin3		Total Rows: 2	\$ ∓@	
> Contr > vBon	roller Type Host	name Sy: -	stem /x3 txdvjW97 +2pTZyR 4kGDZO	vogxtt1wtzb5yiiePgrqgkp1zjrscJzze421ex M2WHVwhrWQgM1U+Gn6V85MXmotgk6Vbt EU+wcuUKzvK+0n0x98r/BOdRz+oC1HAkH7v	CTKiQ6vyA94UcaWw	Certificate Serial No certificate installed	VEdge Lis Devid	2) 	
> vMar	nage vmai	nage 1.1	CI0 YNNIWVE ZI <u>nE</u> /2x7BI ENI	, solution of the second of th	BvzpBbrKk0KsLdfLbtO	1682912BA80AC965A6	Sync 1.1.1		
				Install	Cancel				

Kiểm tra kết quả: thành công

E Cisco SD-WAN	 Select Resource Group 					\bigcirc	=	0	
stall Certificate					Initiated By: admin	From: 1	192.16	58.1.1	00
otal Task: 1 Success : 1									
									7
C Search								V	
					Total R	ows: 1	Ŕ	3 {	ŝ
Status	Message	Device Type	Device ID	System IP	vManage IP				
Success	Successfully synced vEdge list	vBond	34a186fa-3579-4f8e-9b55-b9	-	1.1.1.1				



VSmart: tương tự vbond

- Cấu hình vSmart Management ip adress: 10.1.1.3, username: admin, password: Admin

Career Conserve	Add Controller Change Mod VBond Mod vSmart Mod VBond Vbond vBond vbond vManage vmanage	> System-ip 1.1.1.2 1.1.1.1	Site ID Region ID 1000 - 1000 -	e List Controllers Mode Assigner CLI - CLI -	d Template Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 <table-cell> 🕹 🐼 Certificate S Installed Installed</table-cell>
	Q Search Add Controller Change Mod vSmart VSmart VBond Vbond vBond vbond vManage vmanage	System-ip 1.1.1.2 1.1.1.1	Site ID Region ID 1000 - 1000 -	Mode Assigner CLI - CLI -	d Template Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 3
	Add Controller V VSmart VSmart Controller Type Hostname VBond vbond vManage vmanage	System-ip 1.1.1.2 1.1.1.1	Site ID Region ID 1000 - 1000 -	Mode Assigned CLI - CLI -	d Template Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 Certificate S Installed ···· Installed ····
Centralize Topic Production Sink D Register Topic Data Kein	VBond Vbond vManage vmanage	System-ip 1.1.1.2 1.1.1.1	Site ID Region ID 1000 - 1000 -	Mode Assigned CLI - CLI -	d Template Draft Mode Disabled Disabled	Device Status In Sync In Sync	Certificate S Installed ····
vidend vlood 1.1.12 100 · CLi · Diadidd is Spic Installed · · · · · · · · · · · · · · · · · · ·	vBond vbond vManage vmanage	1.1.1.2	1000 - 1000 -	CLI - CLI -	Disabled	In Sync	Installed
velenege vennege 1.1.1 100 · Cl · Deaded in Sync installed	vManage vmanage	1.1.1.1	1000 -	CLI -	Disabled	In Sync	Installed •••
Image: Several Security Interfaces Image: Several							
Image:							
Image: Search Notescelle Image: Search Interscelle Image: Search Image: Search Image: Search Image: Search Image: Search Image: Image							
Image:							
H: Controller - Change Made - Superior Boxes Superior Controller - Controller - Controller - Change Made - Superior Sup							
Image: Control of the second secon							
Image:							
Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State Image: Index State							
Image: Controller Image: Controler Image: Controller Ima							
Image:							
Image: Controller Sourch Sourch <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Image: Search Image: Search Add Controller * Change Mode * ************************************							
Image: Search Add Controller - Change Mode - Search Add Controller - Change Mode - Search Add Controller - Change Mode - Search Manage manage 11.1.1 Image manage <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
Image: Image							
Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Select Resource Type: Image: Ima							
Image: Several Control of the several							
Image: System in Outcome: System in Outcome: System in Outcome: System in Outcome: System in Visit Mode Devices Total Rose: 2 Devices Devices <							
Image Image							
Image:							
Image:							
Image Image							
Image: Controller View Search Add vSmart Vorant Management IP Address* Total Rows 2 Image: View View View View View View View View View View							
Image Image							
origuetano. Decise Cice Si: X + C Not secure https://192.168.1.1/#/app/config/devices/controller Ciseco SD-WAN C Select Resource Group Devices Ciseco SD-WAN C Select Resource Group Controller V Change Mode Voond 1.1.1.2 Username* Use	O H: 👩 💳 龄	n 👝 🛛 🚑					∧ G ⊕ 1 = ^{11:44 AM}
entgration - Devices Class C * +							6/26/2023
endigration - Devices Caso So X + V 0 C A Not secure https://192.168.11.#/app/config/devices/controller C C Sco SD-WAN C Select Resource Group > Devices C C Sco SD-WAN C Select Resource Group > Devices C Search Add VSmart Variation P Address* Userrame* dead voord 1.1.1.2 Athrage vramage 1.1.1.1 Passoord* Passoord* Port DTS C Generale CSR Generale CSR Generale CSR							
adiglication Levelse Liste S is a finite service heteps//192.168.1.1/#/app/config/devices/controller C A hot secure heteps//192.168.1.1/#/app/config/devices/controller C Search Add Controller ~ Change Mode ~ Eartroller Type Hostname System in Hostname System in Hostname in Port in Port in C Searce CSR Cancel Add in Sync Installed III Controller / Port in C Searce Add III.1.1.1 Add Controller / Port in C Searce Add III.1.1.1 Add Controller / Port in C Searce Add III.1.1.1 Controller CSR C Concel Add III.1.1 Concel Add III.1 Concel CIII.1 Concel CIII.1 Concel CIII.1 Concel Add III.1 Concel CIII.1 Concel CIII.1							·
C A Notsecure https://192.168.11/#/app:/config/devices/controller Cisco SD-WAN Select Resource Group Devices Cisco SD-WAN Select Resource Group Device Search Add vSmart Value frame Systemio Userrame* demin Device Search Ratio Voord 1.1.1.2 Device Search Sear	- T						
Cisco SD-WAN © slect Resource Group Cisco SD-WAN © slect Resource Group Value Famel II Controller V Change Mode V vond Vond Value Famel II Value Famel III </th <th>C A Not secure https://19</th> <th>.168.1.1/#/app/config/devices/</th> <th>controller</th> <th></th> <th></th> <th></th> <th></th>	C A Not secure https://19	.168.1.1/#/app/config/devices/	controller				
Cisco SD-WAN O ster second of oppointed and the second of the seco		into intra appressing actives	controller				
Cisco SD-WAN Select Resource Group. Cisco SD-WA							
Whit Fidure Int Search Add Controller Change Mode ~ Sontroller Type Vecname System=P Username* admin Descold Potcool Potcool Potcool Potcool Potcool Benerate CSR Cancel Add Add Add Cancel Add Add <	E Cisco SD-WAN) Select Resource Group		Device	s		
Carcel Walk Entra isit Add Controller V Change Mode V VSmart Management IP Address* 10.1.1.3 Username* idmin Value Value </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Search Add Controller × Change Mode × vSmart Management IP Address* 10.1.1.3 vsmart Management IP Address* vsmart Management IP Address* <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Carcel Add Controller Change Mode Controller Change Mode Controller Type Manage Vibrant Management IP Address* Usernama* Istainad* Istainad* Istainad* Password* Protocol Protocol Protocol Protocol Protocol Protocol <th></th> <th></th> <th>WAN Edge</th> <th>List Controllers</th> <th></th> <th></th> <th></th>			WAN Edge	List Controllers			
Add Controller V Change Mode V Vand toond 1.1.12 VManage vmanage 1.1.1.1 Controller Change Mode V Vand toond 1.1.12 VManage toond toond 1.1.12 VManage Change Mode V VManage Change Mode V V VManage Change Mode V V VManage Change Mode V V V VManage Change Mode V V V V V V V V V V V V V V V V V V V							
Add Controller V Change Mode V Add Controller V Change Mode V Controller Type Hostname VBond 1.1.1.2 VBanage Vmanage 1.1.1.2 VBanage 1.1.1.2 Password* Image Protocol Dtt<					~		
Add Controller ✓ Change Mode ✓ Add Controller Type Hostname Vbond 1.1.1.2 Vbanage vmanage 1.1.1.1 Add VSmart vsmart Management IP Address* 10.1.1.3 Username* admin Password* Ditabled In Sync Installed Protocol Dit1.5 © Generate CSR Add					^		
Add Controller < Change Mode	Q Search		Add vSmar	t i i i i i i i i i i i i i i i i i i i			
Ad Controller V Change Mode V Vond vond 1.1.1 VManage vmanage 1.1.1.1 VManage Controller	Search						
Add Controller V Change Mode V Controller Type Notame Vond 1.1.2 Vanage vmange 1.1.1 Username* Image Vond 1.1.2 Option Potocol Potocol Potocol Dist Image Option							
Add Controller V change Mode V Controller Type Hostname System-ip Username* Isama Is							
Vond vond 1.1.1.3 Vanage vmanage 1.1.1.3 Username* Idmin Password* Protocol Protocol Protocol Protocol Protocol Protocol Protocol Protocol Cancel Add Name Cancel Add Total Rows: 2 Cancel Add Cancel Add							
Controller Type Hostname VBond 1.1.1.2 VManage vmanage 1.1.1.1 Username* admin Password* Protocol Protocol Port DILS Cancel Add Total Rows: 2 Controller Type Hostname System-ip Installed Disabled Installed Pott Disabled Installed VManage VManage Installed Installed VManage VManage Installed VManage VManage VManage Installed VManage VManage VManage VManage VManage Installed VManage V	Add Controller V Change Mode	~					
Controller Type Hostname System-io VBond vbond 1.1.12 VManage vmanage 1.1.11 VManage vmanage 1.1.12 VIII Password* Image Pot Image Pot Cool Protocol Pot Image Image Image Pot Cool Image Image Image Pot Image Image Image Pot Image Image Image Pot Image Pot Image Pot Image Pot Image Pot Image Image Image Pot Image Image Image Image Image Pot Image Pot Image Image Image Image Image Image Image Image Image Image Image Ima	Add Controller V Change Mod	~	vSmart Management IP Ad	dress*			
Controller Type Hostname System-ip vBond 1.1.1.2 vManage vmanage 1.1.1.1 Username* Password* Protocol Protocol Protocol Cancel Add Past Mode Device Status Centroller Type Vonde Imme* Imme* Imme* Imme* Imme* Past Mode Device Status Imme* Imme* Imme* Imme* Imme* Imme* Imme* Imme* Imme* <td>Add Controller V Change Mod</td> <td>~</td> <td>vSmart Management IP Ad</td> <td>dress*</td> <td>_</td> <td></td> <td>Fotal Rows: 2 🏾 🖯 🔟 🚳</td>	Add Controller V Change Mod	~	vSmart Management IP Ad	dress*	_		Fotal Rows: 2 🏾 🖯 🔟 🚳
Controller Type Hostname System-ip vBond 1.1.1.2 vManage vmanage 1.1.1.1 Password* Disabled in Sync Installed Protocol DTLS @ Generate CSR	Add Controller V Change Mod	~	vSmart Management IP Ad	dress*	_		Total Rows: 2 🔗 🛓 🚳
vBond vbond 1.1.1.2 vManage vmanage 1.1.1.1 Password* Protocol Protocol Protocol Protocol Protocol Protocol Cancel Add	Add Controller V Change Mod	v	vSmart Management IP Ad	dress*	- 11		Fotal Rows: 2 🖓 🛨 🔅
vBond vbond 1.1.1.2 uManage vmanage 1.1.1.1 Password* Disabled in Sync Installed Protocol Port DTLS • Cancel Add	Controller Type Hostname	∽ System-ip	vSmart Management IP Ad 10.1.1.3	dress*	Draft Mode	- Device Status	Fotal Rows: 2 💭 👱 🔅
vManage vmanage 1.1.1.1 Password* Disabled in Sync installed ••• Protocol Port DTLS • Generate CSR Cancel Add	Controller Type Hostname	Ƴ System∹ip	vSmart Management IP Ad 10.1.1.3 Username*	dress*	Draft Mode	Device Status	Total Rows: 2 📿 生 🚯 Certificate S
vManage vmanage 1.1.1.1 Password* Duabled in Sync Installed *** vmanage vmanage 1.1.1.1 Password* Protocol Prot DTLS • Generate CSR Cancel Add	Controller Type Hostname	∽ System-ip	vSmart Management IP Ad 10.1.1.3 Username* admin	dress*	Draft Mode	Device Status	Total Rows: 2 G 🕁 🍪 Certificate S
vManage vmanage 1.1.1.1 Password* Disabled in Sync installed ••• Protocol Port DTLS • @ Generate CSR Cancel Add	Controller Type Hostname	∨ System-ip 1.1.1.2	vSmart Management IP Ad 10.1.1.3 Username* admin	dress*	Draft Mode Disabled	Device Status In Sync	fotal Rows: 2 🔗 👱 🚱 Certificate S Installed
Protocol Port DTLS • Image: CSR Cancel Add	Controller Type Hostname VBond vbond	∽ System-ip 1.1.1.2	vSmart Management IP Ad 10.1.1.3 Username* admin	dress*	Draft Mode Disabled	Device Status In Sync	fotal Rows: 2 C + 6
Protocol Port DTLS • @ Generate CSR Cancel Add	Controller Type Hostname VBond Vbond VManage vmanace	✓ System-ip 1.1.1.2	vSmart Management IP Ad 10.1.1.3 Username* admin Password*	dress*	Draft Mode Disabled Disabled	Device Status In Sync	Total Rows: 2 💭 🛓 🚳
Protocol Port DTLS • @ Generate CSR Cancel Add	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password*	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Fotal Rows: 2 C + 6
Protocol Port DTLS • Cancel Add	Controller Type Hostname VBond vbond vManage vmanage	System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password*	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 2 3 3 4 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Protocol Port DTLS • Generate CSR Cancel Add	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password*	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Fotal Rows: 2 2 2 ± 6
Cancel Add	Controller Type Hostname VBond vbond vManage vmanage	♥ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* 	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Generate CSR	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Fotal Rows: 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Generate CSR	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol	dress*	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Generate CSR	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS •	dress* Port	Draft Mode Disabled	Device Status In Sync In Sync	Fotal Rows: 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Generate CSR	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS •	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 📿 速 🛞 Certificate S Installed Installed
Cancel Add	Controller Type Hostname VBond Vbond VManage vrmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Fotal Rows: 2 $2 arrow arrow$
Cancel	Controller Type Hostname VBond vbond vManage vmanage	System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 📿 速 🛞 Certificate S Installed Installed
Cancel Add	Controller Type Hostname vBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS Protocol DTLS Centerate CSR	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Fotal Rows: 2 2 \pm (5) Certificate S Installed Installed
Cancel Add	Controller Type Hostname VBond vbond vManage vmanage	> System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	fotal Rows: 2 📿 🛓 🚳
	Controller Type Hostname VBond vbond vManage vmanage	> System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port	Draft Mode Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 2 2 2 3 3 4 6 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Controller Type Hostname vBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS Carte CSR Carte CSR	dress* Port Cancel	Draft Mode Disabled Disabled	Device Status In Sync In Sync	fotal Rows: 2 📿 🛓 🚳
	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port Cancel	Add	Device Status In Sync In Sync	Total Rows: 2 📿 🛓 🛞 Certificate S Installed Installed
	Controller Type Hostname vBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS CR Generate CSR	dress* Port Cancel	Disabled Disabled	Device Status In Sync In Sync	fotal Rows: 2 📿 🛓 🚳
	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Generate CSR	dress* Port Cancel	Add	Device Status In Sync In Sync	Total Rows: 2 📿 速 🛞 Certificate S Installed Installed
	Controller Type Hostname vBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • CGenerate CSR	dress* Port Cancel	Disabled Disabled	Device Status In Sync In Sync	Total Rows: 2 <section-header> 🖈 🏟</section-header>
	Controller Type Hostname VBond vbond vManage vmanage	✓ System-ip 1.1.1.2 1.1.1.1	vSmart Management IP Ad 10.1.1.3 Username* admin Password* Protocol DTLS • Z Generate CSR	dress* Port Cancel	Add	Device Status In Sync In Sync	Total Rows: 2 📿 🛓 🛞 Certificate S Installed Installed



- Tạo file vsmart_csr bằng cách chọn Generate CSR

Cisco SD-WAN	🖓 Selec	t Resource Group	•	Certificates				
							Insta	all Certificate
			WAN Edge List	Controllers TLS Proxy				
end to vBond								
Q. Search								
							Total Rows: 3	: C ±≰
Controller Type	Hostname	System IP	Expiration Date	uuid Operation Status	Site ID	Certificate Serial	vEdge Lis	Device
> vBond	vbond	1.1.1.2	07 Nov 2024 6:40:29 PM +07	34a18 Installed	1000	1682912BA80AC965A6	Sync	1.1.1. •••
vManage	vmanage	1.1.1.1	16 Dec 2028 6:23:00 PM +07	2f3ef vBond Updated	1000	1682912BA80AC965A6	Sync	1.1.1. •••
vSmart	-	-	-	dc451 CSR Generated	-	No certificate installed	Sync	10.1. •••
								View CSR
								View Certifie Generate C
								Reset RSA
								Invalidate
Д III 💽 📕	• •	0 ⁰ 4					^	Ē € 4 <mark>≈</mark> 11:46
Q # 💽 🗖	•	<u>e</u>					^	년 🕀 ସ <mark>ଛ</mark> 11:46 6/26/
Q 🗄 💽 🗮	•	CSR				×	^	ତି 🕀 ସ <mark>⊯</mark> 6/26/
오 # 0 m	• • •	CSR				×	^	ලි: 🕀 ් <mark>ෂ</mark> 11:46 6/26/
Ø Ħ € ■	•	CSR	ress' 10113			×	^	ලි 🤀 d👷 ^{11:46} 6/26/
Q 🛱 🂽 🗖	1 🔲 🧿	<u>لطً</u> CSR IP Add	ress: 10.1.1.3			×	^	ලිං €ම 4 <mark>∞</mark> 6/26/
Q 🛱 💽 🗖	1 🌒 🌀	CSR IP Add	ress: 10.1.1.3		Ŧ	X Download	^	⊙ 🔀 4∎ ^{11:46}
Q 🗏 🂽 🗖	I 🌢 🧿	ی <mark>ہ ع</mark> CSR IP Add	ress: 10.1.1.3		ŧ	Download	^	호 € 4∎ ^{11:46}
Q 🖽 💽 🗖	•	CSR IP Add	ress: 10.1.1.3	QUEST	±	Download	^	ලිං €ම d <mark>⊛ 6/26/</mark>
Q 🗄 💽 🗖	• • • • • • • • • • • • • • • • • • •	CSR IP Add Bi	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC	QUEST zAJBgNVBAYTAİVT) b	± MRMwEQ		^	ටු සි 4∎ 11:46
Ø ⊯ € ■	•	CSR IP Add IP Add MIDQ VQQI MRE	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybml yDwYDVOOHEwhTYY	:QUEST zAJBgNVBAYTAIVT) h	MRMweq A1UEC×1	Download VD VD	^	호 🔁 d. 11:46
Ø Ħ @ ■	1 🤲 🧿	CSR IP Add Bt MID VQQI MREv 2R3Y	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA;	EQUEST zAJBgNVBAYTAIVT) h V4gSm9zZTEUMBIG SBgNV	* MRMwEQ	Download Download YPD MLc	^	ତି € d _{* 6/26} /
, 2 	1 🄲 🧿	CSR IP Add Bt MIID VQQI MREv 2R3Y BAoT	ress: 10.1.1.3 GIN CERTIFICATE RE GjCCAjICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA C3ZJUHRIbGEgSW5j	EQUEST zAJBgNVBAYTAİVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz	MRMwEQ A1UECxI	Download Pyp MLc QtZ	^	ତੁ €2 d _{* 6/26} /
Q ⊯ € ⊨	1	L ⁸ CSR IP Add MID3 VQQI MREv 2R3Y BAoT DhIM	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA3 C3ZJUHRIbGEgSW5j jJiMDUt0TQ4Mi00	EQUEST zAJBgNVBAYTAİVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz	MRMwEQ MAIUECXI M2c21hor	Pownload WD MLc QtZ	^	ତੁ €t d _{∎ 6/26} /
Q 🗏 🂽 📕	1	LP Add IP Add IP Add MID2 VQQI MREv 2R3Y BAoT DhIM NDIyi	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA3 C3ZJUHRIbGEgSW5j JiMDUt0TQ4Mi00 Tkw0GEtN2FIZWY01 	EQUEST zAJBgNVBAYTAIVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz MWIwQAYDVQQDEz	MRMwEQ MAIUECXI MILIZc21hon wdGVsYS	V Download V YD MLc QtZ 5jb2	^	ତି € d _∎ 11:46
Q 🗷 🂽	1	L ³ CSR IP Add BI MIID: VQQI MRE: 2R3Y BAoT DhIM NDIyi OXiJA	ress: 10.1.1.3 GIN CERTIFICATE RE GICCAJICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA: C3ZJUHRIbGEgSW5j JJIMDUtOTQ4Mi00 .TkwOGEtNzFiZWY01 gBgkqhkiG9w0B VESN104BP.coPDA.d=1	EQUEST zAJBgNVBAYTAİVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz VWYyYTRhLTIudmlw wdGVcVSSEb20u	MRMwEQ MILLECXI MILLE	VD VILc Sjb2	~	ତି € d _{* 6/26/}
Q 🗷 🂽	1	L ³ CSR IP Add Bi MilDs VQQI MREv 2R3Y BAoT DhIM NDIyi OxijA CQEV Sibat	ress: 10.1.1.3 GIN CERTIFICATE RE GICCAJICAQAwgckxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA: C3ZJUHRIbGEgSW5j JiMDUtOTQ4Mi00 .TkwOGEtNzFiZWY01 gBgkqhkiG9w0B VE3N1cHBvcnRAdml OFERAUL44/IBDwc4	EQUEST zAJBgNVBAYTAIVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz VWYyYTRhLTIudmlw wdGVsYS5jb20wggf	MRMwEQ 6A1UECxI 12c21hcn vdGVsYS EiMA0GC	VD VD VD QtZ Sjb2	~	ତି € d _{* 6/26/}
Q	I 🌒 🇿	CSR IP Add Bi MilD3 VQQI MREv 2R3Y BAoT DhIM NDIyi OxijA CQEV SIb33 anFK	ress: 10.1.1.3 GIN CERTIFICATE RE GJCCAJICAQAwgckxC EwpDYWxpZm9ybm1 WWYDVQQHEwhTYV W4udm5wcm8xFDA3 C3ZJUHRIbGEgSW5j JiMDUt0TQ4Mi00 Tkw0GEtNzFiZWY01 gBgkqhkiG9w08 VE3N1cHBvcnRAdm1 VE3N1cHBvcnRAdm1 VQEBAQUAA4IBDwAw AoIBAQC8HanorKbZ	EQUEST zAJBgNVBAYTAIVT} h W4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz VWYyYTRhLTIudmlw wdGVsYS5jb20wggf v Ra7UngYWKpiia+RZ	MRMwEQ MILECxI MAUECxI I2c21hcn vdGVsYS EiMA0GC HdaHLG4	VD VILc Sjb2 SqG	~	ତି € d _{* 6/26/}
Q		CSR IP Add Bi MilD3 VQQI MREv 2R3Y BAoT DhilM NDiyi OxijA CQEV Sib3I ggEK MVKi	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybm1 WDwYDVQQHEwhTYV W4udm5wcm8xFDA3 C3ZJUHRIbGEgSW5j JiMDUtoTQ4Mi00 .TkwOGEtN2FiZWY01 gBgkqhkiG9w0B VE3N1cHBvcnRAdm1 QEBAQUAA4IBDwAw AoIBAQC8HgnorKbZ ugYxN1MjTQesKx3	EQUEST zAJBgNVBAYTAIVTł h W4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz WWYyYTRhLTIudmlw wdGVsYS5jb20wggI v Ra7UnqYWKpija+RZ	MRMwEQ MILECxI MAUECxI I2c21hcn vdGVsYS EiMA0GC HdsHLG0	VD VILc Sjb2 SqG	~	ତି € d _{* 6/26/}
Q ⊞ @ ■		CSR IP Add IP Add MID3 VQQI MREV 2R3Y BAOT DhIM NDIy OxijA CQEV SIb3I ggEK MVKi DZk1	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgekxC EwpDYWxpZm9ybml vDwYDVQQHEwhTYV W4udm5wcm8xFDA: C3ZJUHRIbGEgSW5j jJiMDUt0TQ4Mi00 TfkwOGEtN2FiZWY01 gBgkqhkiG9w0B VE3N1cHBvcnRAdml QEBAQUAA4IBDwAv AoIBAQC8HgnorKbZ ugYxN1MjTQesKx3 Fw/k9Ptm8dz8jqarf)	:QUEST zAJBgNVBAYTAIVT) h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz vWYyYTRhLTIudmlw wdGVsYS5jb20wggf v Ra7UnqYWKpjja+RZ (pPrFpOaVGiiPK8sef	MRMwEQ A1UECxI 2c21hcn vdGVsYS EiMA0GC HdsHLG(tEkxn8q8	V Download YYD MLc 5jb2 SqG 5f8l zoY	~	ĝ € d _* ^{11:46}
Q 🗄 💽 🖿		CSR IP Add IP Add MIID VQU MREV 2R3Y BAOT DhIM NDIyi 0XIJA CQEV SIb3I ggEK MVKi DZk1	ress: 10.1.1.3 GIN CERTIFICATE RE SjCCAjICAQAwgckxC EwpDYWxpZm9ybml wDwYDVQUHEwhTYV W4udm5wcm8xFDA C3ZJUHRIbGEgSW5j jJiMDUtOTQ4Mi00 TkwOGEtNzFiZWY01 gBgkqhkiG9w0B VE3N1cHBvcnRAdml QEBAQUAA4IBDwAv AoIBAQC8HgnorKbZ ugYxN1MjTQesKx3 Fw/k9Ptm8dz8jqarf	:QUEST zAJBgNVBAYTAlVTI h V4gSm9zZTEUMBIG SBgNV MUIwQAYDVQQDEz vWYyYTRhLTIudmlw wdGVsYS5jb20wgg8 v Ra7UnqYWKpjja+RZ (pPrFpOaVGiiPK8sef	MRMwEQ A1UECxI I2c21hcr vdGVsYS EiMA0GC HdsHLG0 tEkxn8q8	V Download (YD MLc 5jb2 SqG Sf8l	~	ē € d _* <mark>6/26</mark> /

- Vào consle vsmart gõ cat vsmart_csr và copy chứng chỉ số từ begin đến end



					0.1
vSmart			_		\times
File Edit View Options Transfer Script Tools Window	Help				
🖏 🖏 🕞 🆏 🗶 Enter host <alt+r> 🛛 🗈 🏦 🖓 😼</alt+r>	🕘 📑 💥 🕴 💿 🔄 👘				Ţ
✓ vManager ✓ vBond ✓ vSmart × 📵 vEdge1 🕡 vEdge2	✓ vEdge3				4 Þ
vsmart login: admin					^
Password:					
Last login: Mon Jun 26 11:47:40	UTC 2023 from 1	0.1.1.1 on	ssh		
Welcome to Viptela CLI					
User admin last logged in 2023-0	6-26T11:47:40.6	94319+00:0	0, to	vsma	a
rt, from 10.1.1.1 using netconf-	ssh				
admin connected from 127.0.0.1 u	sing console on	vsmart			
vsmart# vshell					
vsmart:~\$ cat vsmart_csr					
BEGIN CERTIFICATE REQUEST			01	11-	
	AIVIMEMWEQIDVQQ AlueczMeumeocm®	IEWPDIWXP4	məyom.		
$MKEWDWIDVQQHEWIIIIW4QSIII525IEOMAWGa^2NwIFW5a^3PlbXMw0jPAmm0Y7a$	HUECAME VIII SQCIIIO.	AFJAUBGNVB 17i1modelt		at at	
YTY02S00NiFiYT.JiMGU00WF+MS52aXB0	ZWyhLmNyhTFiMCA	CCSCCSTAN	OF TAR	ус VT	
c3VwcG9vdEB2aXB0ZWxbLmNvbTCCASIw	DOY IKOZ TOYCNAOF	BBOADaaEPA	DCCAO		
ggEBALcNT4oS59fMfcJCa9DexfitZXhF	57khUaKA9Vwrvn9	VYvMNo6t5M	91a8m	OX XC	
Gavz8rAw33PEEiw+fLSE+gVtJ8xDSYEI	wCFxNOLMaRXIZX1	YGa1n8xpoe	da2PA	z5	
uao7TIwkcke+YYWkPfsz8K9KvrlcqQBl	i8uz1Bk0/0r1/tD	mAFbbY0kx6	N+bXh	om	
L0ldit8hIy9us4TQmsDHe1CZfiymNyWU	cA5kA090KkbREVR	Ruv/rSzhAR	tBFds	Ks	
ktYnX2IQY17+T4SQKH9umzJNjHMxWUx4	1WmzmFXg7uxJ8go	u/DGWVegNl	LRyH/	2r	
FSkgwvQU6q3buRhQj7T5ydujRHcCAwEA	AaA7MDkGCSqGSIb	3DQEJDjEsM	CowCQ	YD	
VR0TBAIwADAdBgNVHQ4EFgQUJ1knH8AY	39r7WpZPGSxBmwe	ZuFkwDQYJK	oZIhv	cN	
AQELBQADggEBACtlsKyX/Vf6VpxRn3vy	p/u3GSTlrASq1FN	CwhB2de5r2	pYWNp	PR	
En/4NqEUQkbPhRqV19CGQWeDkKXcgTn5	1bCSMEUAFrGTXib	Nqe7xQ2FSd	7JhcZ	VU	
O9g4U63SYx/TLz8QZ9D3VO+fw3MiKF4F	JYgESFnd9ZCeuNI	sBeG5Qk/6q	WKzadl	b7	
+4XvJigl25Xt81kn8MmsJ3KqKpsACt64	KCLIWqR1606bqzU	EjOCKjEBLf	f8eMl	Ba	
McuCToHIkUISa9sjQd04/dxV3q10vUq4	wtvQiweB2eGj/GO 	TYcgICiIAX	Bxj+v	bJ	
rshkomQ590Dv8J5DLThwcxAmfYK64cyC	YDC=				
END CERTIFICATE REQUEST					
VSIIIart:~>					• •
Ready Telnet: 10.	215.27.145 30, 11 30 Rows, 6	7 Cols VT100		CAP NU	JM 🔡

- Sau đó qua console vManage tạo file *vsmart_csr* bằng câu lệnh: **vim vsmart_csr** dán chứng chỉ số vừa copy ở vbond bằng cách gõ "**i**" rồi kich chuột phải đế dán, sau đó gõ "**esc :wq**" để lưu và thoát ra.





- Tiếp tục ở console vmanage dùng câu lệnh: "openssl x509 -req -in vsmart_csr -CA ROOTCA.pem -CAkey ROOTCA.key -CAcreateserial -out vsmart.crt -days 500 -sha256" để chuyển file vsmart csr sang vsmart.crt

```
vmanage:~$ openssl x509 -req -in vsmart_csr -CA ROOTCA.pem -CAkey R
createserial -out vsmart.crt -days 500 -sha256
Signature ok
subject=C = US, ST = California, L = San Jose, OU = VnPro, O = Cisc
o Systems, CN = vsmart-dc451e5f-f81e-46d8-a64e-461ca2c0e49a-1.vipte
la.com, emailAddress = support@viptela.com
Getting CA Private Key
vmanage:~$
```

- Vào PC (trong sơ đồ lab) ssh vào vManage, dùng cat vsmart.crt để copy chứng chỉ số



- Sau đó vào giao diện trên web vManage chọn Install Certificate

👑 Configuration - Certificates Cisco 🔾	× +				~ - @ ×
← → C ▲ Not secure #	https://192.168.1.1/#/app/c	onfig/certificates/contr	oller		ie 🖈 🛛 😩 :
≡ Cisco SD-WAN	Select Reso	ource Group▼	Certificates		
Send to vBond Q Search > Controller Type > vBond > vManage > vSmart	Hostname S vbond 1 	vetem 1.1.1 xulticate vetem 1.1.2 xulticate xulti	All Certificate a Text Select a Fie Rg/1/3ygu(HHCGAWEAAIANBgKqRMiGWWBHQBFAAUCAQEAMBUBGSU m9B+sQVNSVBSYTTOqwNNEVKIIVCcxSela4Wmsvou/pCmYVBoleLA WhaTJz1E7qRWyGWOQI5/5/11fuATZM7ga+Ej6459uxgV35uk/KSOqK Gwm-SSNCJEQeiVVYgzaIRU6SrHA689/BOBBDTLUW0hCngHDa86VFH/ JsFvADF92WX6Augni620psUM2vDz7/H+2khyqhPri54jKOFiRSDnkPo3 hthOn/IMvn+3qTzZUZZKmeckGArwijTstZzrZAvVKrMiZcEpbFPBhySN gqA=: D CERTHICATE	Certificate Serial 1682912BA80AC965A6 1682912BA80AC965A6 No certificate installed	Install Certificate V Total Rows: 3 Image: Certificate vEdge Lis Device Sync 1.1.1. Sync 1.1.1. Sync 1.1.1. Sync 1.1.1.
🖷 🔎 🖽 💽 🚍	📦 📀 🛃				^ @ € d <mark>≥</mark> 11:52 AM ↓



Website: www.vnpro.vn | Forum: www.vnpro.org | Video: https://www.youtube.com/@vnpro149