

# **High Availability**

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# **Configuring Connectors as VIP Paired**

This task shows you how to configures two connectors and pair them with a virtual IP address (VIP).



**Note** Cisco Spaces: Connector high availability uses Virtual Router Redundancy Protocol (VRRP) protocol to determine the state of the instance in the high availability pair.

### Before you begin

Install two different Cisco Spaces: Connectors. Configure each connector with a unique IP address.

Step 1 Login to Cisco Spaces > Setup > Wireless Networks and in the Configure Spaces Connector area, click Create Connector.

#### Figure 1: Create Connector

E CISCO SPAC	ES		Active APs 166 of 1000		0
Conne	t your wireless network				
Cor	nect via Spaces Connector Connector is an easy way to get your wiveless network connected to Cisco Spaces. No need to u	ograde Cisco Wireless Controllers or reconfigure your wireless network.		^	
(1	Install Spaces Connector OVA Downood space Connector OVA a visual rachine. Downood space Connector (?		Need Help? Access the below links to view detailed help.		
2	Configure Spaces Connector You will need a solar to configure Spaces Connector. You need to connect to https://-your connector I Ve HTTPS prove.	View Configuration Steps System Requirements			
	2 / 11 connector(s) active	Create Connector View Connectors	Frequently Asked Questions		
3	Add and associate controllers to your Cleco Spaces Connector(s)				
	1 / 4 controller(s) active	Add Controllers View Controllers			
•	Import Maps Primu/DNAC map requires in order to work Locate & detect, Asset tracker, and KOT services, and proof	tity Report			
	9 buildings imported 9 floors imported	Import/Sync Maps Map Upload History Manage Maps			
	-				

**Step 2** Enter a name for the connector and choose the version.

A connector is created. Click Go to the connector Details page.

Step 3 In the connector details page, click Generate Token in the top-right corner.

### Figure 2: Generate Token

Copy the displayed token.

**Step 4** Log in to the GUI of the first instance of connector and click **Configure Token** in the top-right corner to provision the first copied token there.

### Figure 3: Configure a Token

SPACES Connector	or 3.1							θ
Dashboard								
Configure Connector	Configure Token Without the token, the connect	ctor will not be able to start.						Configure Token ×
Onligure HTTP proxy								/
Privacy Settings		General Information				Click to Configure a	Token	orface
🖉 - Manage API Keya	Connector 3.1	Connector Name Terrant ID	Not Available Not Available		HA Config Mode			10.89.45.92/24 00.50.56.47.54:C8
⊙ Troubleshoot	Hostiane compor Ricitage connector3g04 Show Now	Connector ID Instance ID Proxy NTP Address NTP Status	Not Available 005056a754c8 https://prony.ee ntp.kal.cisco.co active (nunning)	l Il cisco com 80 om 0			Gattewity DNS Server Domain IP Stack	10.004.45.1 171.30.168.188 elect.com ipv4
	Health Cloud Reschability CPU Percentage Unage Disk Percentage Unage Disk Unage Merrory Unage	Connected 12.5 % () 5.1 % () 480.54 MB ()	Memory Percents Plunning Status System Load Ave Up time	nge Usage srage	12.28 % ① Up ① 0.34 ① Rd 4h 63m 21s ①			
	Services C							
	Service Manager 🚔 3 Upgrade: Soccess	13.0.104	Ø		<b>i</b>	1		
	Up time Control Channel CPU Urage (%) Memory Urage (%) Memory Urage Disk Urage (%)	1d 11h 62m 66s ① Down 0.68 % ① 3.81 % ① 142.35 MB ① 0 % ①		Looking for ot Follow steps belo 1 Login to C Global Into	ther services? w to add services Xaco Spaces	•		
1	Disk Size	56 MB 🛈		For APAC	ntps://discospaces.sg			

**Step 5** Log in to the GUI of the second instance of connector, and click **Configure Token** in the top-right corner to provision the second copied token there as well.

### Figure 4: Configure a Token

SPACES Connecto	r3.1							θ
🖄 Dashboard								*
Configure Connector	Configure Token Without the token, the come	ctor will not be able to start.						Configure Token ×
<ul> <li>Configure HTTP proxy</li> </ul>								
Privacy Settings	11	General Information				Click to Configure a Toke	en	erface
🖉 Manage API Keya	Connector 3.1	Connector Name Tenant ID	Not Availa Not Availa	bla bla	HA Config Mode	· ·		10.89.45.92/24 00.50.56:A7:54:C8
· Troubleshoot	Hostname com or	Connector ID	Not Availa	blo			Gabeway	10.09.45.1
	Package connector3-p84	Instance ID	005056a7	54c8			DNS Server	171.70.168.183
		Proxy	https://pro	ry.esl.cisco.com.90			Domain	elisco.com
	Show More	NTP Address	ntp.esi.cis	00.00m			IP Stack	ip.4
		NTP 558528	acave (nur	ring)				
	Health							
	Cloud Reachability	Connected	Mamory Pan	sentage Usage	12.28 % ①			
	CPU Percentage Usage	12.5 % ①	Running Sta	h.ra	Up 🛈			
	Disk Percentage Usage	5.1 % ©	System Load	i Average	0.34 ①			
	Disk Usage	4713.21 MB ①	Up time		8d 4h 53m 21s 🛈			
	Memory Usage	480.94 MB 🛈						
	Services C							
	Service Manager 🚔 : Upgrate: Saccess	3.1.0.104	۵		<b>.</b>	M		
	Up time	1d 11h 52m 56s 🛈						
	Control Channel	Down						
	CPU Usage (%)	0.68 % ①		Looking for o	ther services?			
	Memory Usage (%)	3.81 % ①		Follow steps bel	ow to add services			
	Memory Usage	149.36 MB 🛈		1 Login to	Cisco Spaces			
	Disk Usage (%)	0 % (i)		Global M	ps://dnaspaces.io/home			
	Disk Size	SE MB ()		For APAC	https://biscospaces.sg			

Two tokens have been configured on two connector instances. You can observe that the connector ID on each instance of the connector is the same

**Step 6** On each instance of the connector, observe that the value of the connector ID is the same.

Figure 5: Observe connector ID

SPACES Connector	or 3.1		
🔟 Dashboard			
Configure Connector		General Information	
		Connector Name	con116
Configure HTTP proxy	Connector 3.1	Tenant ID	14002
A Privacy Settings	Hostname ipv6-raib	Connector ID	73000993702070310000
	Package connector3-p84	Instance ID	000c29cfb0f3
Manage API Keys		Proxy	Not Available
Troubleshoot	Show More	NTP Address	rtp5-b5-rbb-ntp1- v6.cisco.com
		NTP Status	active (running)

**Step 7** On the Cisco Spaces dashboard, go back to the connector details page, and click the **Instances** tab. Here, you can see both the connectors that you configured. Observe that the connector IP addresses are reflected here.

Figure 6: Cisco Spaces dashboard

≡ CISCO SPA	CES														0 9
Setup > Conne	actors > conn-ha-vip										ID : 376167	47827259750000   Last M	odified : May 11,	2023, 4:1	7:54 AM
	SUMMAR 2 Instances	2 Active	0 Inactive	2 Services enabled	0 Controller	0 Switches									
Configurat	tion Instances	Metrics									0	P Generate Token	Troubles	hoot Con	mector
Instance	s in High Avail	ability Pair											Configu	re VIP I	Pairing
¢	005056a75 System Package	54c8 e: connector3-pil r2023	14-		0	1	ą	¢	005056a7affa System Package: connector3-p84- apr2023			0   1			
Ma	c ID		00:50	:56:A7:54:C8				Mac II	ID	00:50:56:A7:A	F:FA				
IP 4	Address		10.8	.45.92				IP Add	idress	10.89.45.93					
Sta	tus		0 U					Status	15	🕒 Up					
Cor	ntrol Channel Statu:		Conni	cted				Contri	rol Channel Status	Connected					
HA	Status		Not Pi	ired				HA St	litatus	Not Paired					
900	MICER		145						00000	114					
Ser	vice Manager sion: 3.1.0.104   Last	Heard on May '	<b>3 Up</b> 11, 2023, 10:04:0	PM			5	Servic	ce Manager n: 3.1.0.104   Last Heard on May 11, 20:	9 Up 13, 10:04:12 PM					
Loc Vers	ation sion: 3.1.0.52   Last	leard on May 1	<b>()</b> Up 1, 2023, 10:04:07	РМ			L N	Locati Version	tion m: 3.1.0.52   Last Heard on May 11, 202:	9 Up I, 10:04:12 PM					

The two connectors are now configured as an active-active pair.

Step 8 To configure the two connector instances as VIP-Paired, click Configure VIP Pairing in the top-right corner.

≡ c	SCO SPACES						Ø 6
Set	UP > Connectors > conn-ha-vio SUMMARY 2 2 0 Instances Active Inacti	2 0 Services enabled Control	0 Ier Switches		ID : 3761674	7827259750000   Last Modified	May 11, 2023, 4:17:54 AM
0	Configuration Instances Metrics				0	🖉 Generate Token 🛞	Troubleshoot Connector
1	nstances in High Availability Pair		0 1 1	O05056a7affa System Package: connector3- p	Configure VIP Pairing	0	Configure VIP Pairing
	Mac ID	00:50:56:A7:54:C8		Mac ID	00:50:56:A7:AF:FA		
	IP Address	10.89.45.92		IP Address	10.89.45.93		
	Status	🚯 Up		Status	C Up		
	Control Channel Status	Connected		Control Channel Status	Connected		
	HA Status	Not Paired		HA Status	Not Paired		
	VIP Address	NA		VIP Address	NA		
	SERVICES			SERVICES			
	Service Manager G Version: 3.1.0.104   Last Heard on May 11, 2023,	Up , 10:04:07 PM		Service Manager Version: 3.1.0.104   Last Heard on May	<b>O</b> Up 11, 2023, 10:04:12 PM		
	Location  Version: 3.1.0.52   Last Heard on May 11, 2023,	Up 10:04:07 PM		Location Version: 3.1.0.52   Last Heard on May 1	() Up 11, 2023, 10:04:12 PM		

**Step 9** In the **Configure Virtual IP** popup that is displayed, enter the Virtual IP address (VIP). If the connector has dual interface enabled, you have to chose which interface would be used VIP pairing.

E CISCO SPACES		Configure Virtual IP: fastlocate-ha-cip
Setub > Connectors > fasticcate-ha-cip SUMMARY 2 2 0 Instances Active Inc	) 2 nactive Services enabled	Please enter the Virtual IP address for High Availability Configuration, this IP address should be on the same subnet connector instances Virtual IP
Configuration Instances Metrics		7.7.0.25
Instances in High Availability Pair		Connector has dual interface enabled. Select one of below interface to enable vip paired HA on that interface
O00c292843c6     System Package:     connector 3-p84-spr2023	0	<ul> <li>Secondary</li> </ul>
Mac ID 00:00	IC:29:2A:43:C6	
Primary IP Address 10.22	2.244.113	
Secondary IP Address 7.7.0	0.20	
Status 💽 Up	lp.	
Control Channel Status Conne	rected	
HA Status Not Pe	Paired	
VIP Address NA		
SERVICES		
Service Manager	C Up	
		Sava

Note

• Ensure that the VIP is in the same subnet as the connector IP address.

• If you have dual-interface connector, then VIP should be from the subnet of the secondary interface.

You can now see that the instances are configured as a VIP pair.

2 2 Instances Active	0 2 Inactive Services enabled	0 0 Controller Switches		
Configuration Instances Metri	cs		0	🖉 Generate Token 🏾 🍈 Troubles
O00c292a43c6 System Package: connector3-p84-apr2023	0	1 🔅 000	)c29d6e4cd System Package: rector3-p84-apr2023	0
Mac ID	00:0C:29:2A:43:C6	Mac ID	00:0C:29:D6	:E4:CD
Primary IP Address	10.22.244.113	Primary IP	Address 10.22.244.1	14
Secondary IP Address	7.7.0.20	Secondary	/ IP Address 7.7.0.21	
Status	😗 Up	Status	😗 Up	
Control Channel Status	Connected	Control Ch	connol Status Connected	
HA Status	VIP Paired   BACKUP	HA Status	VIP Paired   AC	CTIVE
VIP Address	7.7.0.25	VIP Addres	\$\$ 7.7.0.25	_
SERVICES		SERVICES		
Service Manager Version: 3.1.0.104   Last Heard on M	O Up Aay 10, 2023, 4:12:16 PM	Service Ma Version: 3.1	anager 1.0.104   Last Heard on May 10, 2023, 4:1	1:59 PM
Location Version: 3.1.0.52   Last Heard on Mi	<b>O</b> Up ay 10, 2023, 4:12:16 PM	Location Version: 3.1	Up	:59 PM

## **Connector Active-Active**

You can pair two Cisco Spaces: Connectors in an active-active mode to enable the uninterrupted flow of data to Cisco Spaces.

- 1. You have to generate two tokens on Cisco Spaces and configure these token on two different connector instances. Each connector instance must have a unique IP address.
- 2. Both connectors receive configurations from Cisco Spaces.
- 3. The connectors can then connect to devices and send data back to Cisco Spaces.
- 4. Cisco Spaces then manages the redundant data.
- 5. If one connector is down, the other connector continues to send data.

## **Restrictions for Active-Active**

- On the Cisco Spaces dashboard, there is no configuration required for two Connectors to be an active-active pair.
- Both Connectors connect to all Wireless Controllers and send traffic to Cisco Spaces. The traffic from Wireless Controllers to Cisco Spaces hence increases.
- To be an active-active Connector pair, two connectors must run OVA version 3.0 or higher.
- There is no failover support for Hyperlocation.



- Reprovision services after a failover for active-active. For VIP-paired mode, re-provisioning is unnecessary.
- There is no support for monitoring the Connector active-active feature.
- You cannot run IoT Service high availability in Active Active mode. To run IoT Service high availability, use VIP-paired mode.

## **Configuring Connectors in Active-Active**

This task shows you how to configure two connectors as active-active.

### Before you begin

Install two different instances of Cisco Spaces: Connectors of OVA version 3.0 or higher. Configure each instance of connector with a unique IP address.

## Step 1 Login to Cisco Spaces > Setup > Wireless Networks and in the Configure Spaces Connector area, click Create Connector.

#### Figure 7: Create Connector

nnect	your wireless network			
Conn	ect via Spaces Connector			
Spaces C	onnector is an easy way to get your wireless network connected to Cisco Spaces. No	reed to upgrade Cisco Wireless Controllers or reconfigure your wireless network.		
	Install Spaces Connector OVA		Need Help?	
	Download and install Spaces Connector OVA as a virtual machine.		Access the below links to view detailed help.	
	Configure Spaces Connector		View Configuration Steps	
Ĩ	You will need a token to configure Spaces Connector. You need to connect to https://-your o via HTTPS prove.	nnector IP+/ from a browser to configure the token. You can optionally configure Spaces Connector to connect	System Requirements	
	2 / 11 connector(s) active	Create Connector View Connectors	Frequently Asked Questions	
3	Add Controllers			
	Add and associate controllers to your Cisco Spaces Connector(s)			
	1 / 4 controller(s) active	Add Controllers View Controllers		
•	Import Maps Prime/DNAG map requires in order to work Locate & detect, Asset tracker, and IOT services.	and proximity Report		
	G buildings imported	Import/Sync Maps		
		Manage Maps		

**Step 2** Enter a name for the connector and choose the version.

A connector is created. Click Go to the connector Details page.

**Step 3** In the connector details page, click **Generate Token** in the top-right corner.

Figure 8: Generate Token

E CISCO SPACES	₩ <b>0</b> <del>0</del>
Setup > Connectors > connector-test	ID: 4005858765654143000   Last Modified: May 12, 2023, 5:01:08 PM
SUMMARY	
Instances Active Inactive Services enabled Controller Switches	
Configuration Instances Metrics	🔾 🖉 Generate Token 🛞 Troubleshoot Connector
Instances in High Availability Pair	
Click to generate a token	
Configure your instance	
To set up high availability pair follow the steps below.	
Step 1:	
Genarate a token by clicking the b-Generate Token button on the top of this page. A token will be generated.	
Step 2: Copy the generated token.	
Sten 3	
Go to your connector UI and configure the token on your second connector instance. For more details follow the	
documentation	

Copy the displayed token.

- **Step 4** Repeat Step 3 to generate and copy a second token.
- **Step 5** Log in to the GUI of the first instance of connector and click **Configure Token** in the top-right corner to provision the first copied token there.

Figure 9: Configure a Token



**Step 6** Log in to the GUI of the second instance of connector, and click **Configure Token** in the top-right corner to provision the second copied token there as well.

L

### Figure 10: Configure a Token

SI	PACES Connects	or 3.1							Θ
63	Dashboard								5
6	Configure Connector	Configure Token Without the token, the conne	ctor will not be able to start.						Configure Token X
٢	Configure HTTP proxy					(			
ô	Privacy Settings		General Information				Click to Configure a	a Token	arface
P	Manage API Keya	Connector 3.1	Connector Name Tenant ID			HA Config Mode			10.89.45.92/24 00.50.95/A7.54:C8
۲	Troubleshoot	Hodhame open pol Pochage open pol Pochage open open of the second spot	Connector ID Instance ID Prony NTP Address NTP Status	Not Analas 005056a7 https://pro ntp.eal.cla active (nur	54c8 54c8 ey, eel cisco com 80 co.com ning)			Ganteway DNS Server Dornain IP Stack	10.007.45.1 171.70.168.183 elecc.com ipu4
		Health Goud Peschability CPU Pencentage Usage Disk Pencentage Usage Disk Usage Merrory Usage	Gomested 12.3 % ⊙ 5.1 % ⊙ 4713.21 MB ⊙ 480.54 MB ⊙	Memory Pen Purning Sta System Load Up time	sentage Usage lus 5 Average	12.26 % ① Up ① 0.34 ① 8d 4h 53m 216 ①			
		Services C							
		Service Manager 🚔	3.1.0.104	ø		-	1		
		Up time	1d 11h 52m 56s 🛈						
		Control Channel CPU Usage (%)	0.68 % ①		Looking for a	ther services?			
		Memory Usage (%)	3.81 % ①		Follow steps bel	ow to add services			
		Memory Usage	149.36 MB ①		1 Login to	Cisco Spaces			
		Disk Usage (%)	0% ()		Global M	tps://draspaces.io/home tps://draspaces.ou/home			
		Disk Size	56 MB 🛈		For APAC	https://biscospaces.sg			

Two tokens have been configured on two connector instances. You can observe that the connector ID on each instance of the connector is the same

**Step 7** On each instance of the connector, observe that the value of the connector ID is the same.

### Figure 11: Observe connector ID

SPACES Connec	stor 3.1		
ណ៍ Dashboard			
Configure Connector	939	General Information	1
		Connector Name	con116
Configure HTTP proxy	Connector 3.1	Tenant ID	14002
Privacy Settings	Hostname inv6-raih	Connector ID	73000993702070310000
Thvacy Settings	Package connector3-p84	Instance ID	000c29cfb0f3
Manage API Keys		Proxy	Not Available
♂ Troubleshoot	Show More	NTP Address	rtp5-b5-rbb-ntp1- v6.cisco.com
		NTP Status	active (running)

**Step 8** On the Cisco Spaces dashboard, go back to the connector details page, and click the **Instances** tab. Here, you can see both the connectors that you configured. Observe that the connector IP addresses are reflected here.

### Figure 12: Cisco Spaces dashboard



The two connectors are now configured as an active-active pair.