

# **Enterprise Cloud Services**

# **How To Set-Up Your Kubernetes Cluster?**

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### Step 1: Edit Edge Gateway rules.

Navigate to the Edges menu and select the edge gateway you want to edit.

Cyfuture Cloud	Data Centers	Applications N	letworking	Content Hub	Libraries	Administration	Monito	or More~				Q 0~		
All Virtual data centers S	ŝite: nrcc.cyfuture.c	loud Organization: De	evyanshSamyal	Data center: devy	yansh									Ī
«	Edge Gate	ways												
III Compute V	Luge out													
vApps													EXPORT EDGE GATEWAYS	
Virtual Machines	Name		A - Status		- Scoo	•		Distributed Routing	Used NICs	External Networks	Org VDC Networks	-	HA State	
Affinity Rules	O devvao	h Firewall	(2) Nor	rmal	0.0	levvansh		Fnabled	2	1	1		Not Applicable	
Scale Groups			0.101		0.	cryanan								
Networking ~														
Networks														
Edges														
🗄 Storage 🗸 🗸														
Named Disks														
Storage Policies														
General V														
Metadata														
Sharing														
Kubernetes Policies														

# Step 2: Edit Firewall rules.

Click on the Firewall option to edit the firewall rules. Click on Edit Rules option.

Cyfuture Cloud	Data Centers Applications	s Networking Content Hul	D Libraries Administration	n Monitor More~					Q   @~   <sup>8</sup> ****!?**	
All Virtual data centers	Site: nrcc.cyfuture.cloud   Organiz	zation: December 1 Data cente								
«	All Org VDC Edge Gateways > devy	yansh Pirewall								
∰ Compute ~ vApps	<∱⇒ devyansh Firew	Vall increase scope								
Virtual Machines Affinity Rules	Configuration General	NEW EDIT RULES EDIT	DELETE MOVE TO REARRANGE							
Scale Groups	Services	z Name	T Category	τ State	T Applications	T Context	T Source	T Destination	T Action	т
Networks	NAT IPSec VPN	e default_rule	Default	Active			Any	Any	Allow	
Storage V Named Disks Storage Policies Storage Policies Settings V	Load Balancer General Settings Service Engine Groups Virtual Services Pools Routing									
General Metadata Sharing Kubernetes Policies	Static Routes Security IP Sets Application Port Profiles Network Context Profiles IP Management IP Allocations DNS DHCP Forwarding									

Select the **firewall** and click on **edit firewall rule** button to enable editing.

# Name y Category	State	Applications	Context	Source	Destination	Action	IP Protocol	Applied To	Logging	Logging ID	Cor
Edit firewall rule	Enabled		-	Any	Any	Drop	IPv4 and IPv6	-	Inactive	25022	1
1											

Now, edit the **Action** menu and select **Allow** and then save the settings.

Edit Rules													×
NEW ON TOP	NEW ABOVE	REMOVE	MOVE UP M	OVE DOWN N	IOVE TO GO	TO USER RULE							
	Name T	Category	State	Applications	Context	Source	Destination	Action	IP Protocol	Applied To	Logging	Logging ID	Comments
• ~ 8	default_r	Default	Enabled	-	-	Any	Any	Drop 🗸	IPv4 and IPv6	s <u> </u>		25022	•
								Drop		_			
								Reject					
4													1 rule(s)
												DISCARD	SAVE

# Step 3: Create NAT rules.

Navigate to the **NAT** rules menu and click on **New** 

Cyfuture Cloud	Data Centers Application	a Networking Content Hub Libraries Administration Monitor More∽ Q ③-	
All Virtual data centers	Site: nrcc.cyfuture.cloud   Organia	zation: Deta center	
«	All Org VDC Edge Gateways > dev	ypath Prevail	
III Compute v vApps	<∱→ devyaden Firev	Wall Increase scope	
Virtual Machines Affinity Rules Scale Groups	Configuration General Rate Limiting Services	nEvr	q T
© Networking ✓	Firewall		
Edger	IPSec VPN		
Storage Named Disks Storage Policies General Metadata Charina	Load Balancer General Settings Service Engine Groups Virtual Services Pools Routing Static Routes Security Static Groups		
Shanng Kubernetes Policies	Salt Souds IP Sets Application Port Polles Network Context Profiles IP Management IP Allocations DNS DHCP Forwarding	No NAT Rules Found	
		Maaga Columa	0 - 0 of 0 rules

Fill in the required details and **NAT action** you wish to configure.

Description	Global_SNAT	
NAT Action *	SNAT	~
External IP *	49.50.89.14	(1)
Internal IP	Translated IP or CIDR	
Destination IP	Source IP or CIDR	
> (à) Advanced S	Settings	

Step 4: Navigate to Load balancer service.

Now click on the **General settings** under **load Balancer** menu, by default the state of the Load balancer is **Inactive**.

All Org VDC Edge Gateways > Vinam	ra Firewall						
<∱→ Firewall	INCREASE SCOPE						
Configuration General Rate Limiting	EDIT						
Services	State	Inactive					
Firewall	Feature Set						
IPSec VPN	Transparent Mode						
Load Balancer	IPv4 Service Network Specification						
General Settings	IPv6 Service Network Specification						
Routing Static Routes							
Security Static Groups IP Sets Application Port Profiles Network Context Profiles IP Management IP Allocations DNS DHCP Forwarding							

NOTE: You will have to generate a support ticket to activate the Load balancer services.

Cyfuture Cloud	Data Centers Applications	Networking Content Hub Libraries Administration Monitor More	Q 0.	
All Virtual data centers	Site: nrcc.cyfuture.cloud   Organiza	ation: Dependencial Data center: dependence		
*	All Org VDC Edge Gateways > devys	ansh Firewall		
∰ Compute ∽ vApps	<∱→ deviation Firew	all increase scope		
Virtual Machines Affinity Rules Scale Groups	Configuration General Rate Limiting	EDIT		
© Networking	Services	State	Active	
Naturalis	Firewall	Feature Set	Premium	
Freeworks	IPSec VPN	Transparent Mode	Inactive	
Edges	Load Balancer	IPv4 Service Network Specification	192.168.255.1/25	
Storage  V	General Settings	IPv6 Service Network Specification		
Named Disks Storage Policies (*) Settings * General Metadata Sharing Kubernetes Policies	Service Engine Groups Virtual Services Pools Routing Static Coups IP Sets Application Port Profiles Network Context Profiles Network Context Profiles IP Management IP Allocations DNS DHCP Forwarding			

Now, you are ready to start configuring your Kubernetes Cluster.

Step 5: Navigate to the Kubernetes Container Clusters service from the more option.

Cyfuture Cloud	Data Centers	Applications	Networking	Content Hub	Libraries	Administration	Monitor	More v	Q 0.
All Virtual data centers	Site: nrcc.cyfuture.	loud Organization	n: DevyanshSamya	Data center	levyansh			Data Protection with BAAS	
«								Operations Manager	
iii Compute	Virtual	Vachinaa						Kubernetes Container Clusters	89 :==
vAnns	virtuar	viacrimes						Data Solutions Solutions	00 ==
Virtual Machines	Find by: Nam	e v	A	DVANCED FILTERING	5			Availability (VCDA-Noida)	Sort by: Creation Date 🗸 🗸
Affinity Rules	0 Virtual Mach	Ines Expired: No 🗴	Clear all filters						
Scale Groups									
Networking ~									
Networks									
Edges									
🗄 Storage 🗸 🗸									
Named Disks									
Storage Policies								No Virtual Machines are found	
Settings								ine is a software computer that, like a physical computer, runs an operating system and applications	
General								NFW VM	
Metadata									
Sharing									
Kubernetes Policies									

Click on the service and you will find the dashboard for all Kubernetes Container Clusters. Click on **New** to create a new Cluster.

Cyfuture Cloud	Data Centers	Applications	Networking	Content Hub	Libraries	Administration	Monitor	More∨						Q   @-	
Kubernetes Contain	er Clusters														
NEW RESIZE DOWN	LOAD KUBE CONFIG	UPGRADE	DELETE												
Name		Status		Kubernete	s Provider			Kubernetes Versio	n	Upgrade		Virtual Data Center		Owner	
									$\mathbf{\nabla}$						
									Т «Ф						
								No Ku	bernetes clusters found!						

#### Step 6: Provide details for your Kubernetes Cluster.

A menu will appear and will prompt you to enter the details for your cluster such as Kubernetes version, number of nodes, disk policy etc.

Start by selecting the VMware Tanzu Kubernetes Grid. Click Next.



Now, provide a name for your cluster and select the Kubernetes version you want to use.



After you've given your cluster a name, select the **VDC** and the **internal network** for your cluster from the available options.

eate New VMware nzu Kubernetes Grid ster	VDC & Network Select a virtual data ce	enter for the cluster	
	Name	(	organization
Kubernetes Provider		0	DevyanshSamyal
2 General			
VDC & Network			
Control Plane			1 - 1 of 1 Virtual Data C
Worker Pools	Select a virtual data ce	enter network for the clust	er
Kubernetes Storage	Name	Gateway CIDR	IP Usage
Kubernetes Network	Internal Network		0.00% (in use: 0, capacity: 253)
Debug Settings			
Review			1-10f1Ne
			CANCEL BACK N

Now, enter configuration details like number of nodes, disk size, storage profile etc, for your **master node**, or control plane.

Create New VMware	Control Plane	3				
Tanzu Kubernetes Grid Cluster	Configure contr	rol plane settings				
1 Kubernetes Provider	Number of Nodes	1 🛊				
2 General	Disk Size (GB)	20				
3 VDC & Network	Sizing Policy		/			
4 Control Plane	Placement Policy		/			
5 Worker Pools	Storage Profile		,			
6 Kubernetes Storage						
7 Kubernetes Network						
8 Debug Settings						
9 Review						
				CANCEL	RACK	NEVT
				CANCEL	DACK	MEXT

Click on Next. Now enter the configuration details for your worker nodes.

Create New VMware Tanzu Kubernetes Grid	Worker Pools					
Cluster	v worker-node-pool-1					
1 Kubernetes Provider	Activate GPU	Activate GPU				
2 General	Name	worker-node-pool-1				
3 VDC & Network	Number of Nodes	1				
4 Control Plane	Disk Size	20				
5 Worker Pools	Sizing Policy	×				
6 Kubernetes Storage	Placement Policy	×				
7 Kubernetes Network	Storage Profile	¥				
8 Debug Settings	DELETE					
9 Review						
	CREATE NEW WORKER POOL					
			CANCEL BACK NEXT			

Notice you can create **Worker pools** to have multiple worker nodes with similar configuration.

After you've provided details for nodes in your Kubernetes cluster, it is now time to select the **storage policy** and **profile**. Select from the available options according to your needs.

Create New VMware Tanzu Kubernetes Grid Cluster	Kubernetes Storage		
	Create Deladit Storage class		
1 Kubernetes Provider	Select a Storage Profile		
2 General	Name	Default	Limit
3 VDC & Network	VSAN Default Storage Policy	Yes	4194304 MB
4 Control Plane			
5 Worker Pools			1 - 1 of 1 Storage Profile
6 Kubernetes Storage			
7 Kubernetes Network	Storage Class Name	default-storage-class-1	
8 Debug Settings	Reclaim Policy Delete	O Retain	
9 Review	Elecystem	deleted.	
	• ext4	⊖ xfs	
			CANCEL BACK NEXT

Configure your Network settings by providing **CIDR** values for your pods and services.

Create New VMware Tanzu Kubernetes Grid Cluster	Kubernetes Network Configure Kubernetes network	k settings		
1     Kubernetes Grid       1     Kubernetes Provider       2     General       3     VDC & Network       4     Control Plane       5     Worker Pools       6     Kubernetes Storage       7     Kubernetes Network       8     Debug Settings       9     Review	Configure Kubernetes networ Kubernetes Pods CIDR Control Plane IP (Optional) Virtual IP Subnet (Optional) RESTORE DEFAULTS	k settings 100 96 0 0/11 100 64 0 0/13 		
			CANCEL	BACK

Now you have the option to enable Auto Repair and Node Health check services. These services allows to check the performance of the nodes and will automatically create a replica node in case one or more of your nodes fail or throws an error.

Create New VMware Tanzu Kubernetes Grid Cluster	Debug Settings Auto Repair on Errors (1)			
1 Kubernetes Provider 2 General 3 VDC & Network 4 Control Plane 5 Worker Pools 6 Kubernetes Storage 7 Kubernetes Network	Node Health Check () SSH Public Key (Optional)			A
8 Debug Settings				
9 Review		CANCEL	ВАСК	NEXT
		CHARGE C	SACK	

After you've entered all details, a Review prompt will appear. Review all the configuration details entered click on Finish.

Create New VMware Tanzu Kubernetes Grid Cluster	Review You are about t	o create a new i	Kubernetes clus	ster with these set	tings		•	
1 Kubernetes Provider	Cluster Name	Cluster Name test						
	Kubernetes Ve	rsion v1.21.14+vmware.2-tkg.5-d793afae5aa18e50bd9			aa18e50bd917	1175e339904496		
2 General	Virtual Data C	enter						
3 VDC & Network	Network Internal Network							
4 Control Plane	Control Plane							
5 Worker Pools	Number of No	des				1		
6 Kubernetes Storage	Sizing Policy					Default		
7 Kubernetes Network	Placement Pol	icy						
8 Debug Settings	Storage Profile Default							
9 Review	Disk Size	Disk Size				20 GB		
	Worker Pools							
	Name	Nodes	бри	Sizing Policy	Placement/vi Policy	SPU Storage Profile	Disk Size	
	worker-nod	1	No	Default	Default	Default	20 GB	
							1 Worker Pool	
	Kubernetes Default Storage Class							
	Name		de	fault-storage-class-	1			
						CANCEL	BACK FINISH	

#### Step 7: Wait for your cluster to create.

The cluster will generally take between 10-15 mins to create after which it is ready to use.

Cyfuture Cloud Data Cen	ters Applications Networking Co	ntent Hub Libraries Administration Monitor	More∨		(	C O Support Devyansh Samyal Devyansh Samyal
Kubernetes Container Cluste	rs					
NEW RESIZE DOWNLOAD KUBE	CONFIG UPGRADE DELETE					
Name	Status	Kubernetes Provider	Kubernetes Version	Upgrade	Virtual Data Center	Owner
O kube	Pending	VMware Tanzu Kubernetes Grid				
0						

Once the cluster is ready and you wish to export it for third party use, click on **Download Kube Config** to download the configuration of your cluster.

c	Cyfuture Cloud Data Centers	Applications Networking Conte	ent Hub Libraries Administration Monitor M	ore ~		c	λ   ⊙∼   Second Second Second -				
K	Kubernetes Container Clusters										
	New O RESIZE DOWNLOAD KOBE C	Status	Vubarpatar Provider	Volumenter Verrien	tearste	Victual Data Conter	Owner.				
	0 kube	Available	VMware Tanzu Kubernetes Grid	v1.21.14+vmware.2	Available	devy and	<b>Online</b>				
(	tiat C			v:2114-cmsiere. <b>2</b>							

You have successfully created your own Kubernetes Cluster using Cyfuture Cloud by following the above mentioned steps.

https://cyfuture.cloud/