



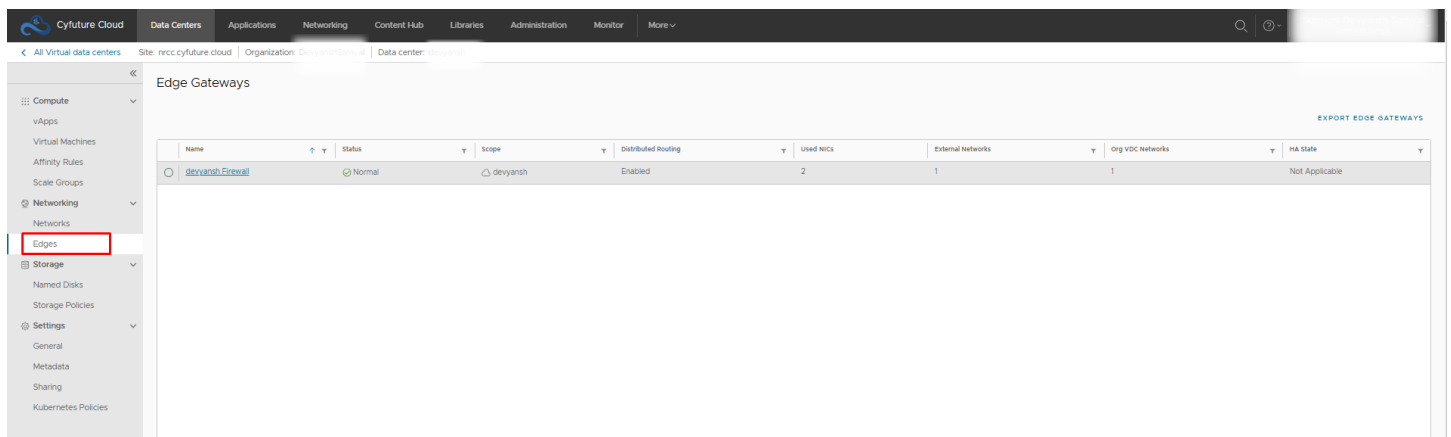
Enterprise Cloud Services

How To Set-Up Your Kubernetes Cluster?

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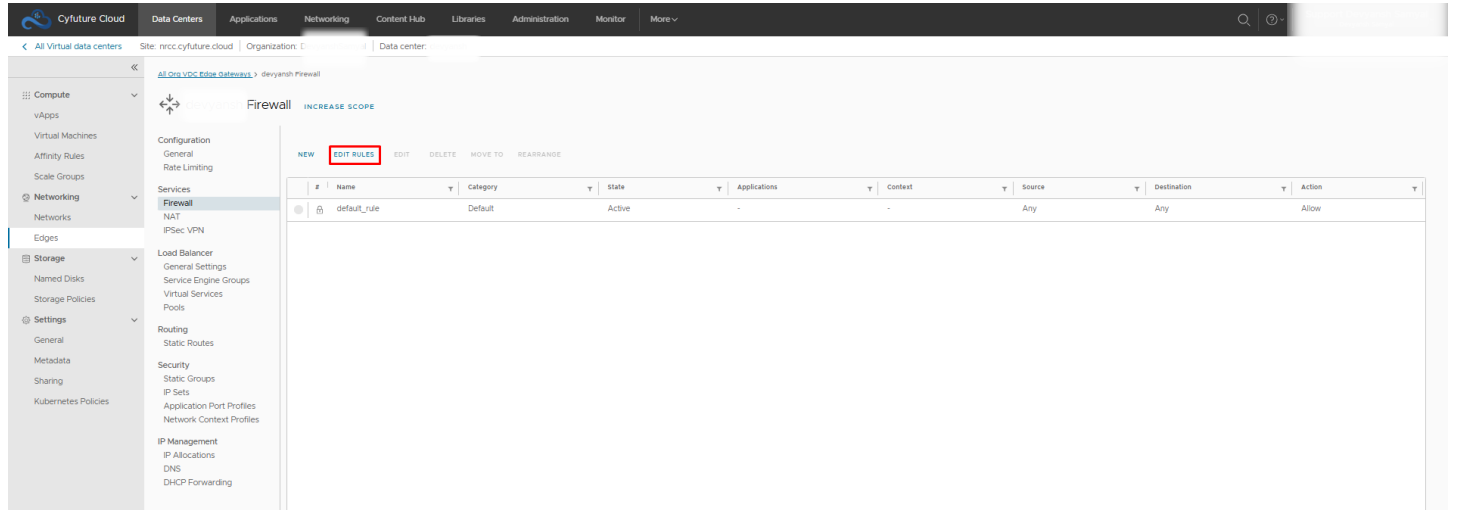
Step 1: Edit Edge Gateway rules.

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

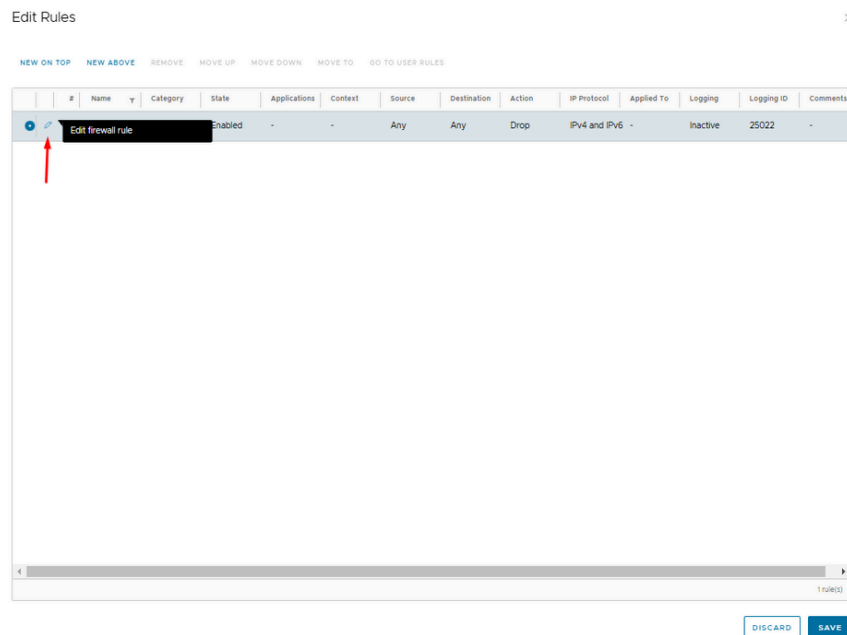


Step 2: Edit Firewall rules.

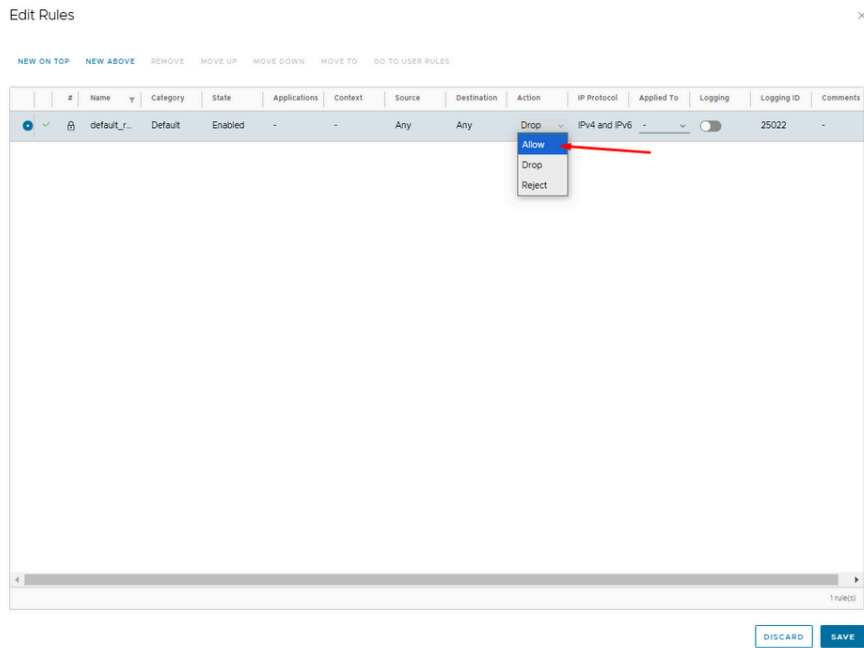
Click on the **Firewall** option to edit the firewall rules. Click on **Edit Rules** option.



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

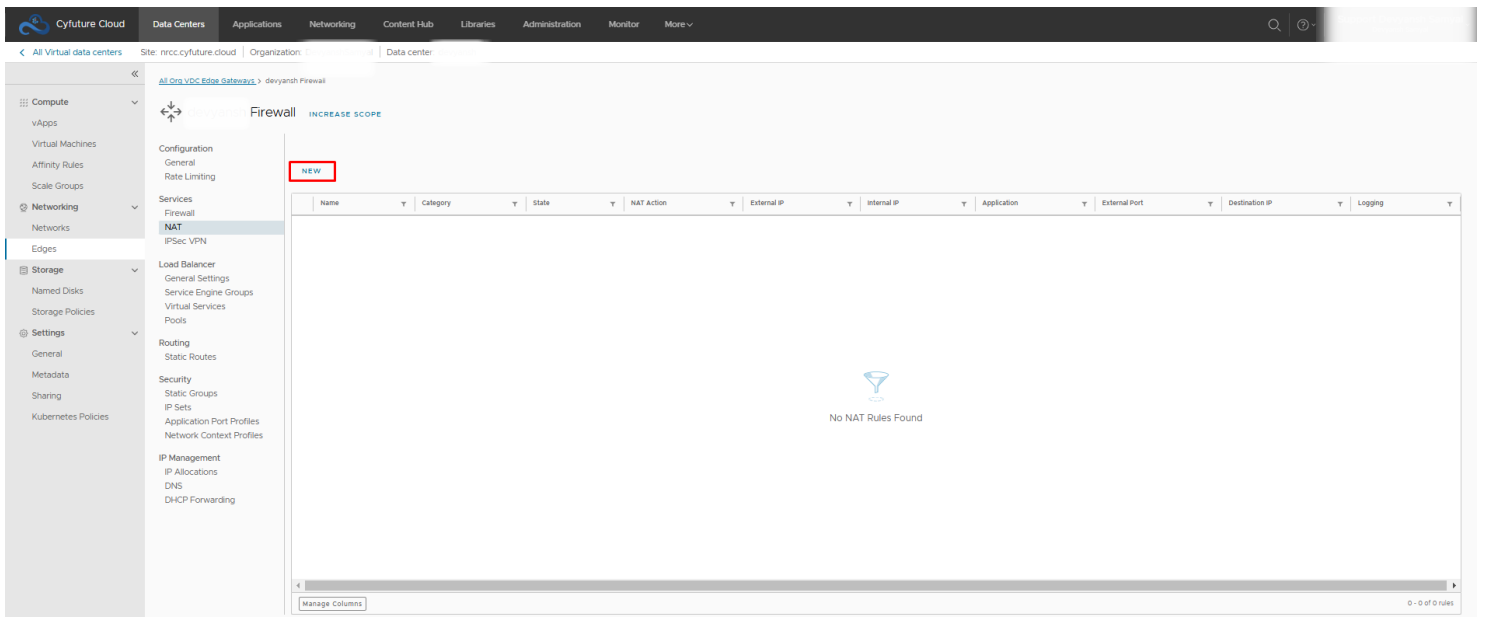


Now, edit the **Action** menu and select **Allow** and then save the settings.



Step 3: Create NAT rules.

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



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

Add NAT Rule ✕

Name *

Description

NAT Action *

External IP * ⓘ
Translated IP or CIDR

Internal IP
Source IP or CIDR

Destination IP

> ⚙️ Advanced 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 > Vinamra Firewall

Firewall INCREASE SCOPE

EDIT

State	Inactive
Feature Set	-
Transparent Mode	-
IPv4 Service Network Specification	-
IPv6 Service Network Specification	-

Configuration

- General
- Rate Limiting

Services

- Firewall
- NAT
- IPSec VPN

Load Balancer

- General Settings**

Routing

- Static Routes

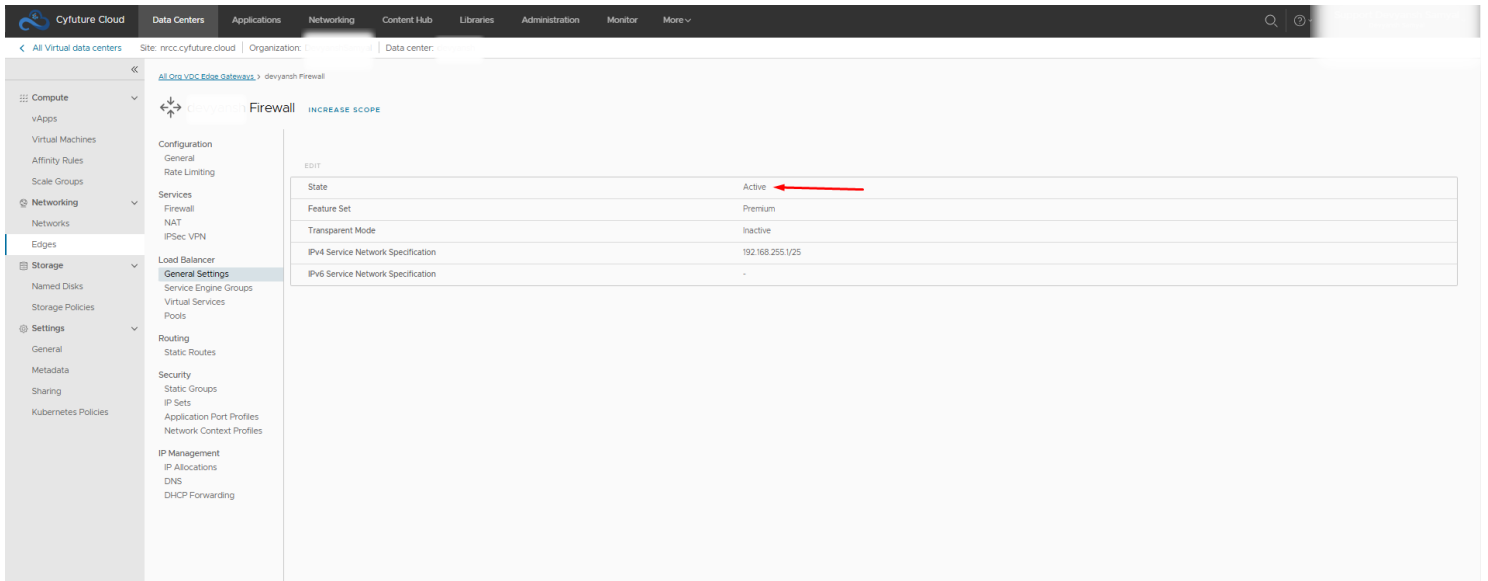
Security

- Static Groups
- IP Sets
- Application Port Profiles
- Network Context Profiles

IP Management

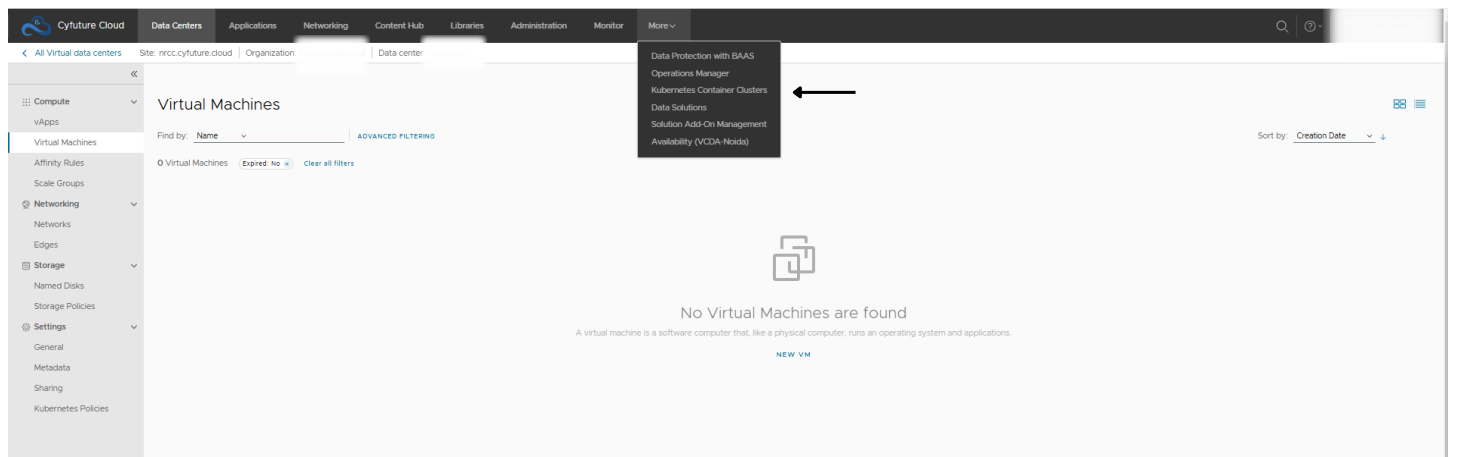
- IP Allocations
- DNS
- DHCP Forwarding

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

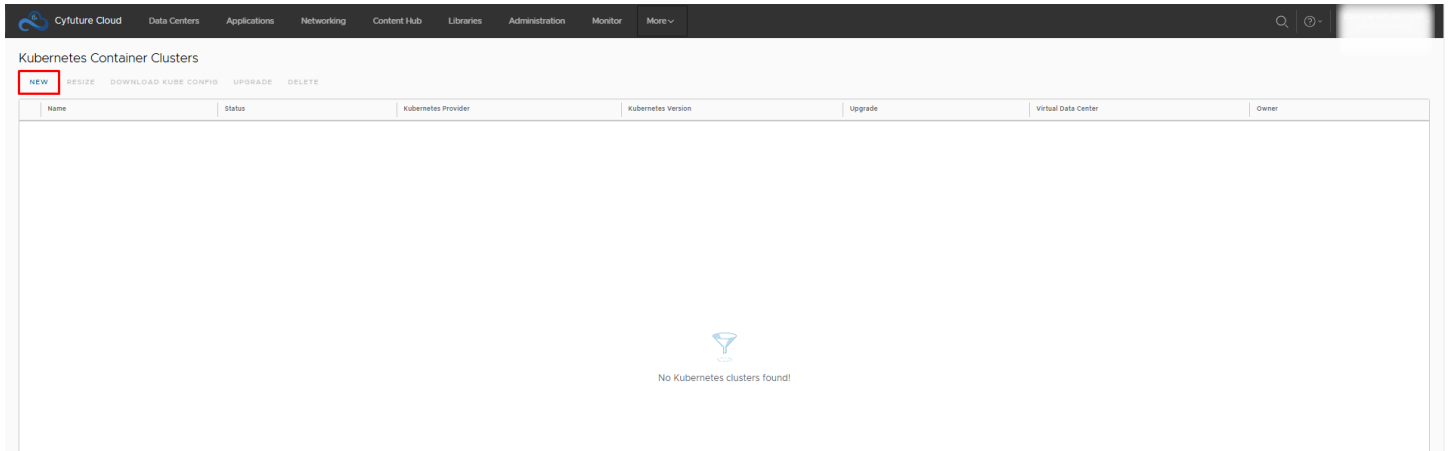


Now, you are ready to start configuring your Kubernetes Cluster.

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



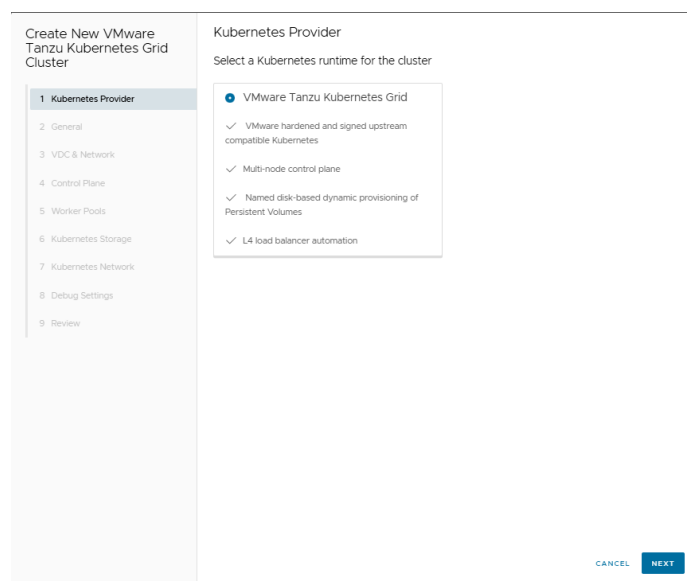
Click on the service and you will find the dashboard for all Kubernetes Container Clusters. Click on **New** to create a new Cluster.



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.

Create New VMware Tanzu Kubernetes Grid Cluster

- 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

General

Name kube

Select a Kubernetes version for the cluster

TKG Product	Kubernetes	Catalog	Item Name	
<input type="radio"/>	1.6.1	v1.23.10+vmware.1	Kubernetes	Ubuntu 20.04 and Kube...
<input type="radio"/>	1.6.1	v1.22.13+vmware.1	Kubernetes	Ubuntu 20.04 and Kube...
<input checked="" type="radio"/>	1.6.1	v1.21.14+vmware.2	Kubernetes	Ubuntu 20.04 and Kube...

1 - 3 of 3 Kubernetes Templates

CANCEL BACK NEXT

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

Create New VMware Tanzu Kubernetes Grid Cluster

- 1 Kubernetes Provider
- 2 General
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VDC & Network

Select a virtual data center for the cluster

Name	Organization
<input checked="" type="radio"/>	DevyanshSamyal

1 - 1 of 1 Virtual Data Center

Select a virtual data center network for the cluster

Name	Gateway CIDR	IP Usage
<input checked="" type="radio"/>	Internal Network	0.00% (in use: 0, capacity: 253)

1 - 1 of 1 Network

CANCEL BACK NEXT

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

The screenshot shows the 'Control Plane' configuration step. On the left, a sidebar lists the steps: 1. Kubernetes Provider, 2. General, 3. VDC & Network, 4. Control Plane (highlighted), 5. Worker Pools, 6. Kubernetes Storage, 7. Kubernetes Network, 8. Debug Settings, and 9. Review. The main area is titled 'Control Plane' and 'Configure control plane settings'. It includes a 'Number of Nodes' spinner set to 1, a 'Disk Size (GB)' spinner set to 20, and three dropdown menus for 'Sizing Policy', 'Placement Policy', and 'Storage Profile'. At the bottom right, there are 'CANCEL', 'BACK', and 'NEXT' buttons.

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

The screenshot shows the 'Worker Pools' configuration step. The sidebar on the left is the same as in the previous step, but step 5, 'Worker Pools', is now highlighted. The main area is titled 'Worker Pools' and shows a configuration box for 'worker-node-pool-1'. It has an 'Activate GPU' toggle switch, a 'Name' field with 'worker-node-pool-1', a 'Number of Nodes' spinner set to 1, a 'Disk Size' spinner set to 20, and three dropdown menus for 'Sizing Policy', 'Placement Policy', and 'Storage Profile'. A 'DELETE' button is located below the configuration box. Below the box is a 'CREATE NEW WORKER POOL' button. At the bottom right, there are 'CANCEL', 'BACK', and 'NEXT' buttons.

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.

The screenshot shows the 'Kubernetes Storage' configuration page. On the left is a navigation pane with steps 1 through 9, where '6 Kubernetes Storage' is selected. The main content area is titled 'Kubernetes Storage' and includes a toggle for 'Create Default Storage Class' which is turned on. Below this is a 'Select a Storage Profile' section with a table:

Name	Default	Limit
vSAN Default Storage Policy	Yes	4194304 MB

Below the table is a 'Storage Class Name' field with the value 'default-storage-class-1'. There are two sections: 'Reclaim Policy' with 'Delete' selected (radio button) and 'Filesystem' with 'ext4' selected (radio button). At the bottom right are 'CANCEL', 'BACK', and 'NEXT' buttons.

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

The screenshot shows the 'Kubernetes Network' configuration page. On the left is a navigation pane with steps 1 through 9, where '7 Kubernetes Network' is selected. The main content area is titled 'Kubernetes Network' and includes the sub-header 'Configure Kubernetes network settings'. There are four input fields:

- Kubernetes Pods CIDR: 100.96.0.0/11
- Kubernetes Services CIDR: 100.64.0.0/13
- Control Plane IP (Optional):
- Virtual IP Subnet (Optional):

Below the fields is a 'RESTORE DEFAULTS' button. At the bottom right are 'CANCEL', 'BACK', and 'NEXT' buttons.

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

- 1 Kubernetes Provider
- 2 General
- 3 VDC & Network
- 4 Control Plane
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Debug Settings

Auto Repair on Errors ⓘ

Node Health Check ⓘ

SSH Public Key (Optional)

CANCEL BACK NEXT

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

- 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

Review

You are about to create a new Kubernetes cluster with these settings

Cluster Name	test
Kubernetes Version	v1.21.14+vmware.2-tkg.5-d793afae5aa18e50bd9175e339904496
Virtual Data Center	
Network	Internal Network

Control Plane

Number of Nodes	1
Sizing Policy	Default
Placement Policy	
Storage Profile	Default
Disk Size	20 GB

Worker Pools

Name	Nodes	opu	Sizing Policy	Placement/vGPU Policy	Storage Profile	Disk Size
worker-nod...	1	No	Default	Default	Default	20 GB

1 Worker Pool

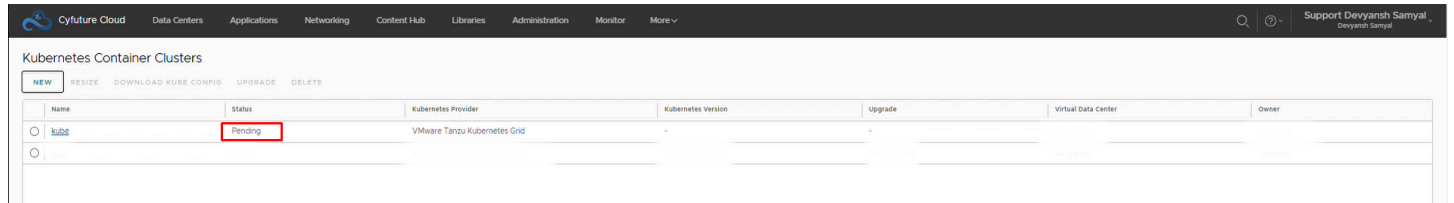
Kubernetes Default Storage Class

Name	default-storage-class-1
------	-------------------------

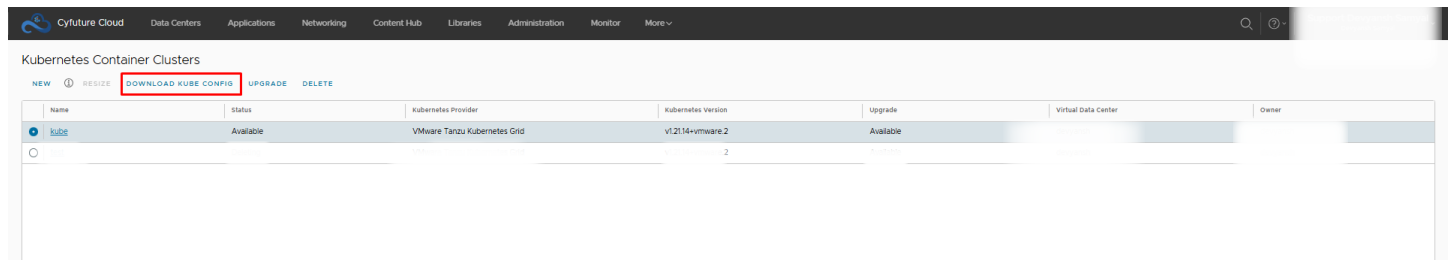
CANCEL BACK FINISH

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.



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.



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

<https://cyfuture.cloud/>