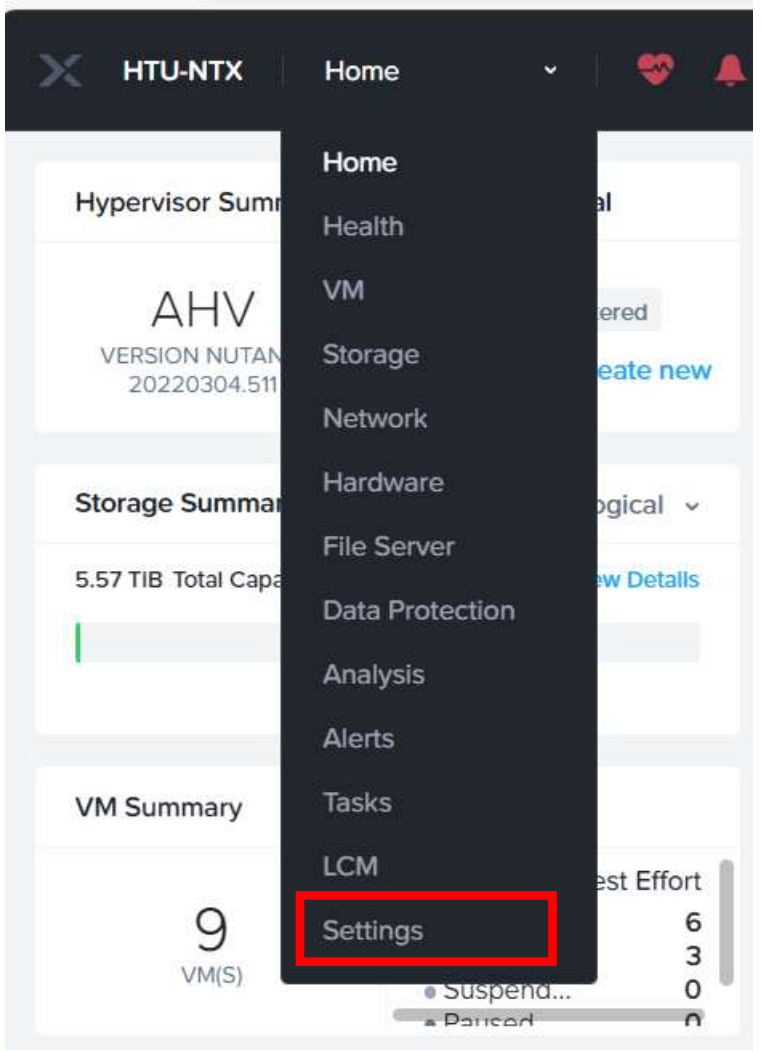
Tunning, intro to prism element and how to use, how to create virtual machine

Sarah Masadeh

Tunning cluster

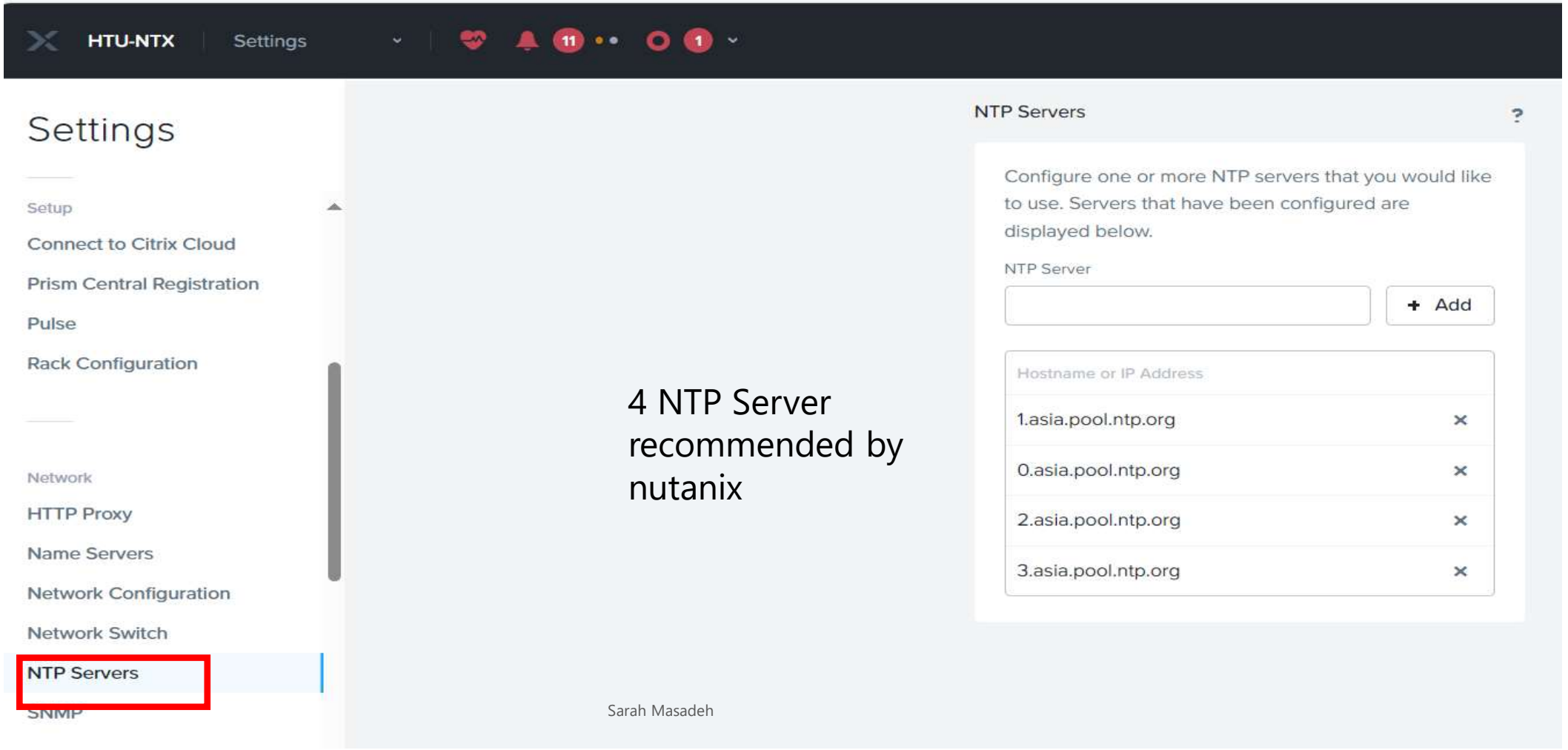
- After foundation successed, you should tune cluster and double check some points.

- First check NTP server, as we know NTP server use to synchronize time in cluster



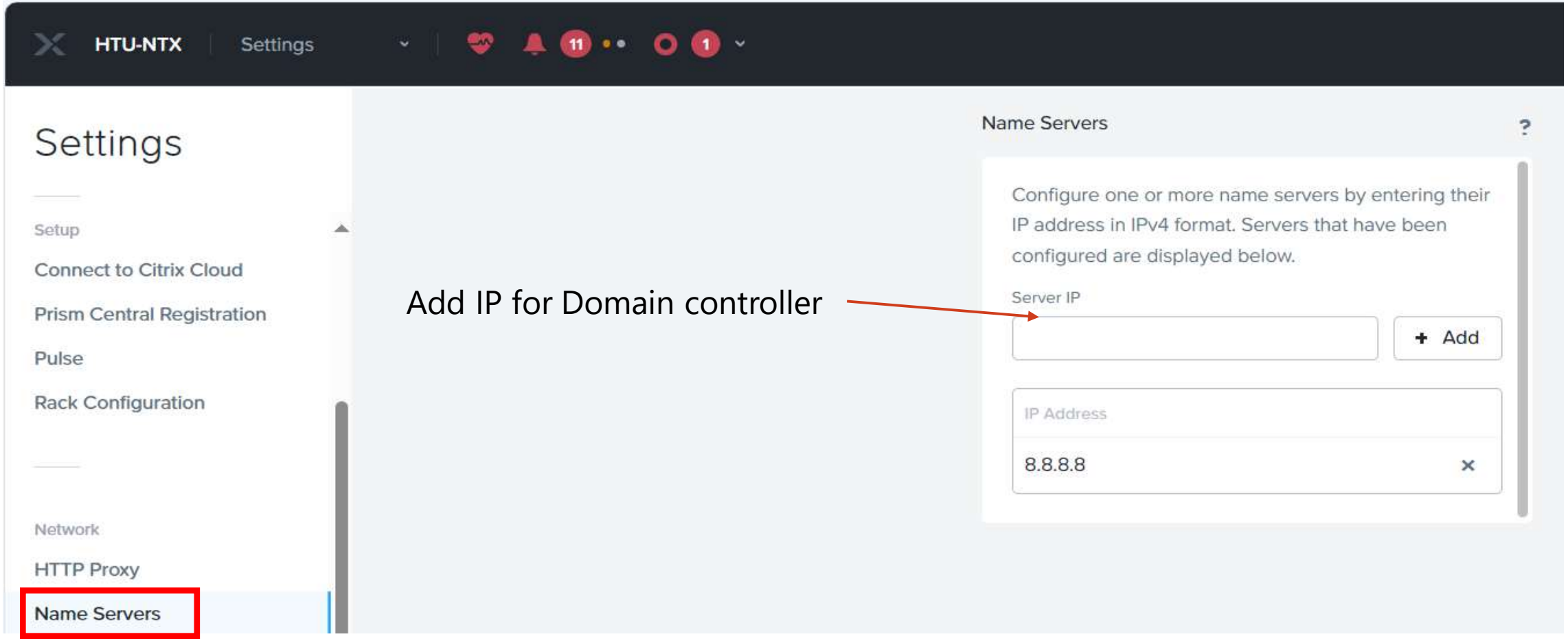
Tunning cluster

- if you did not assign SMTP during foundation , you can add it manually.



Tunning cluster

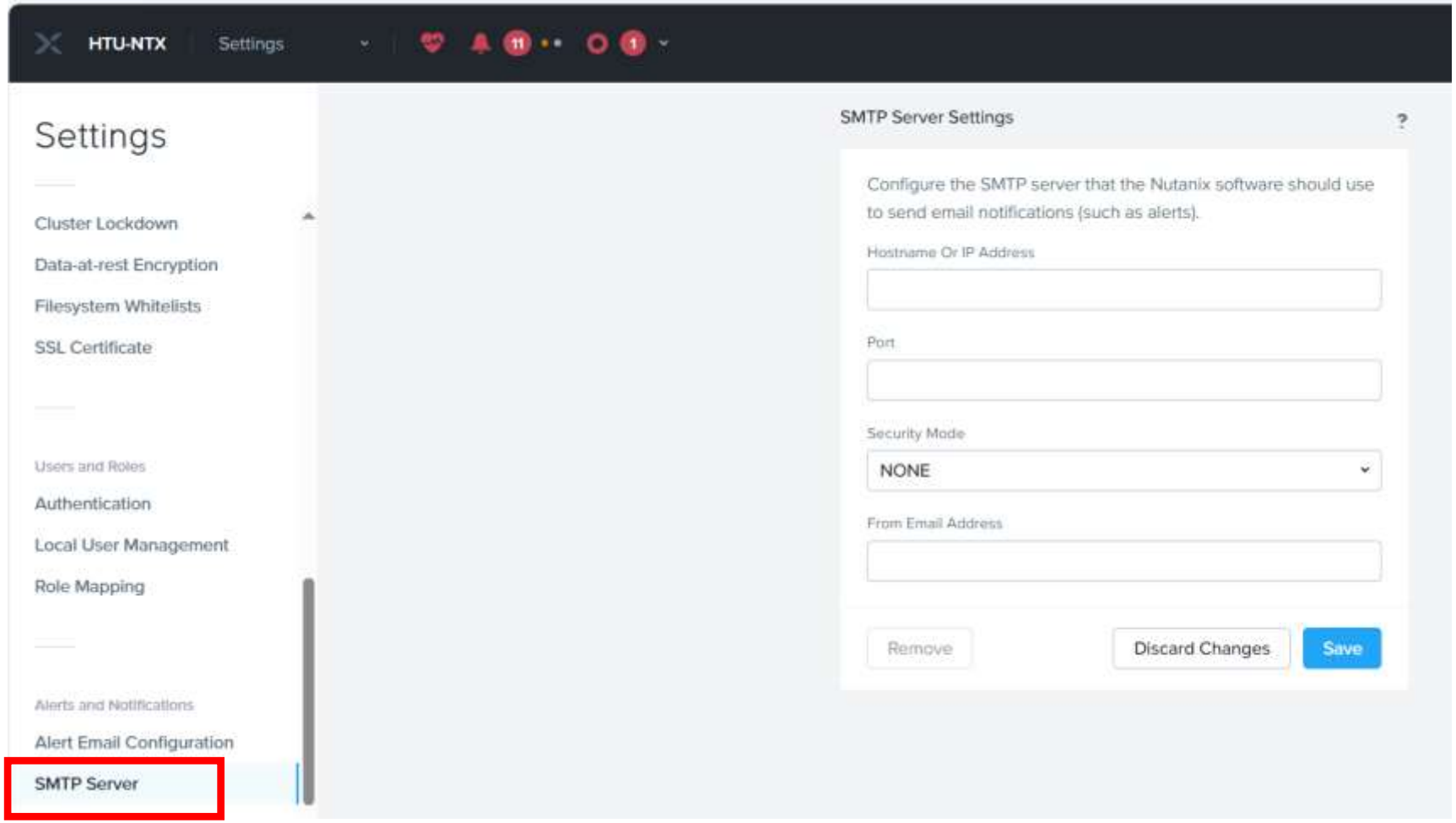
- Second check Name servers.



Tunning cluster

- 3 check SMTP server.

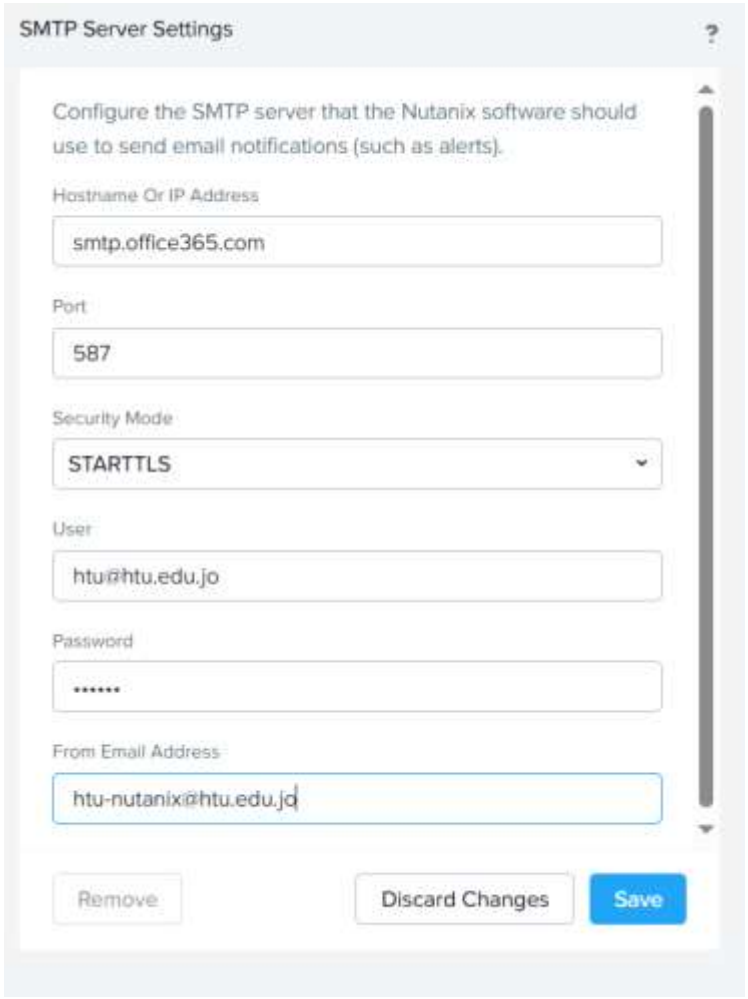
SMTP server use to send notification about cluster health.

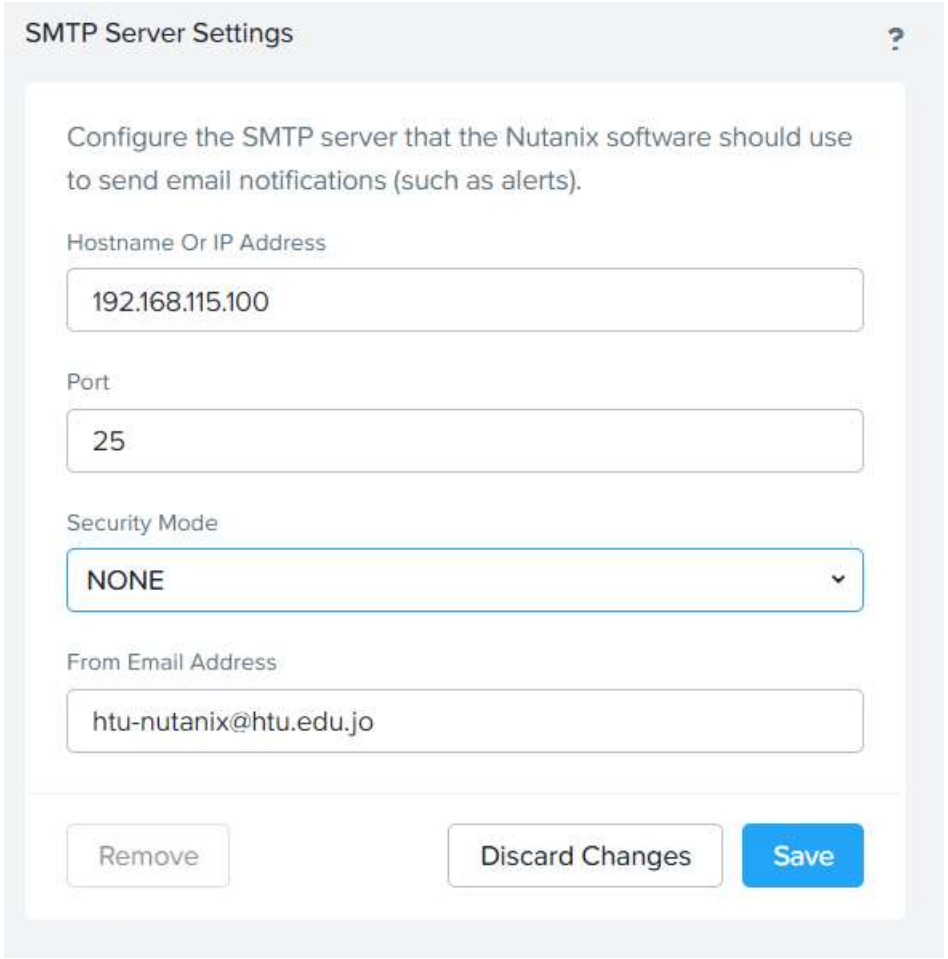


Tunning cluster

- 3 check SMTP server.
- User: account to send
- From: from whom

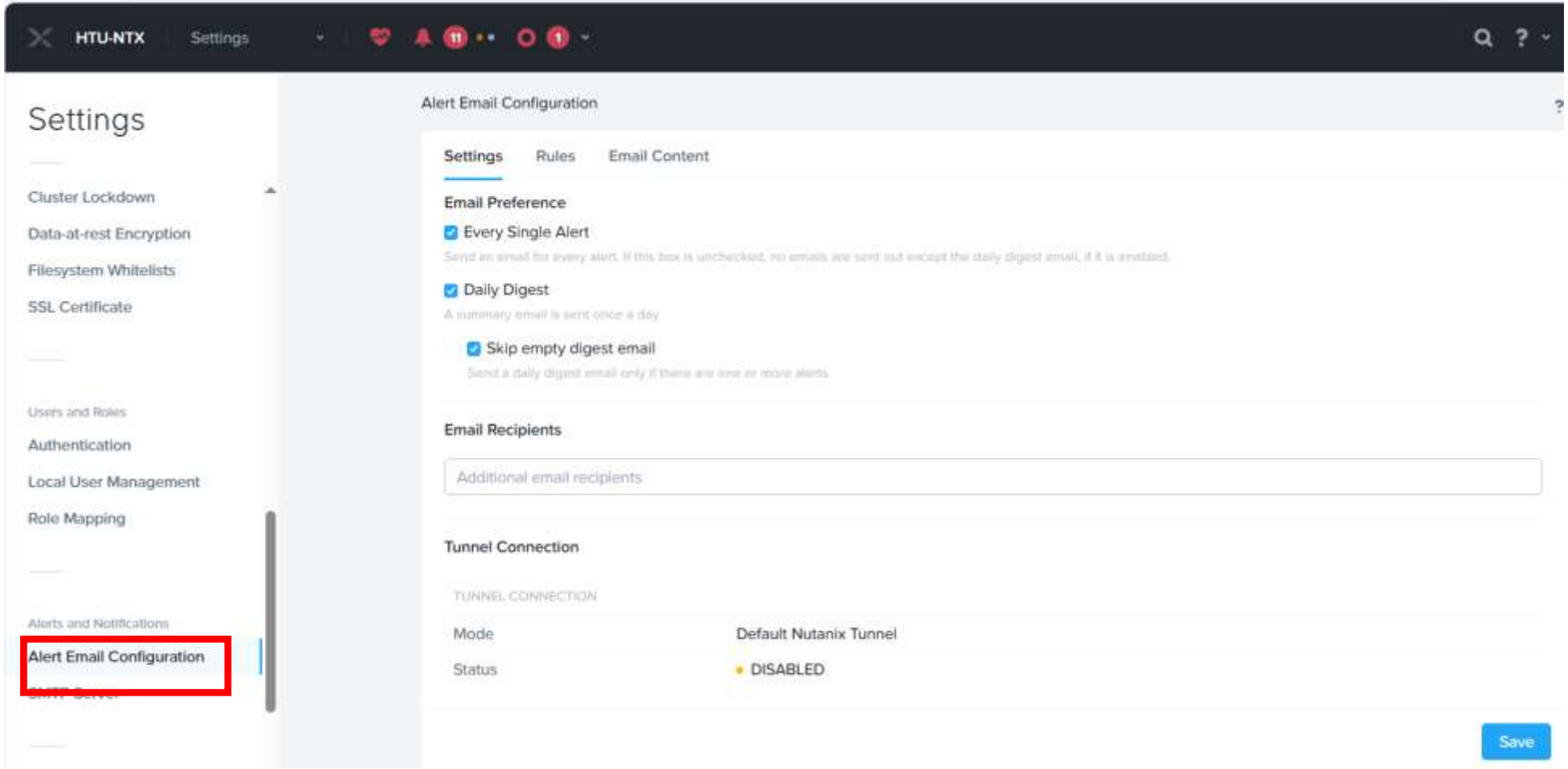
Receiver will get





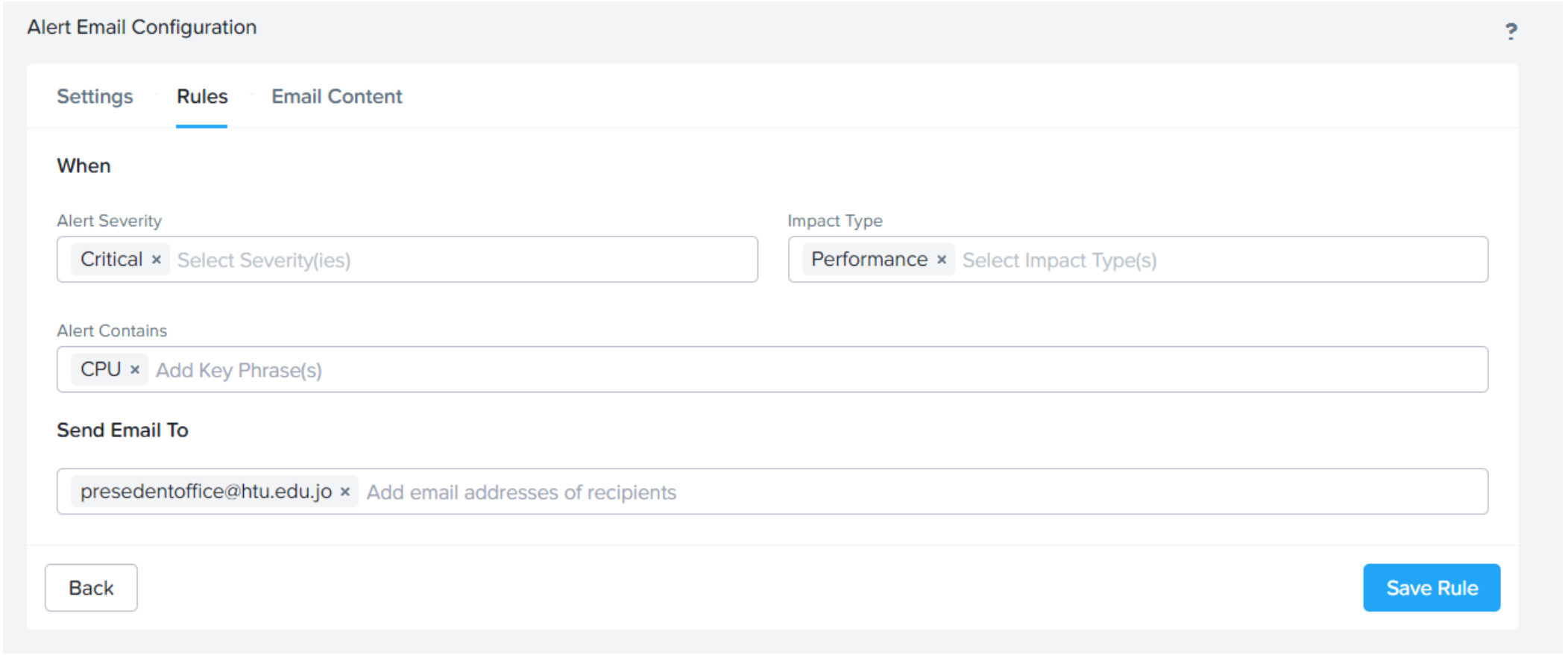
Tunning cluster

- 4 configure email



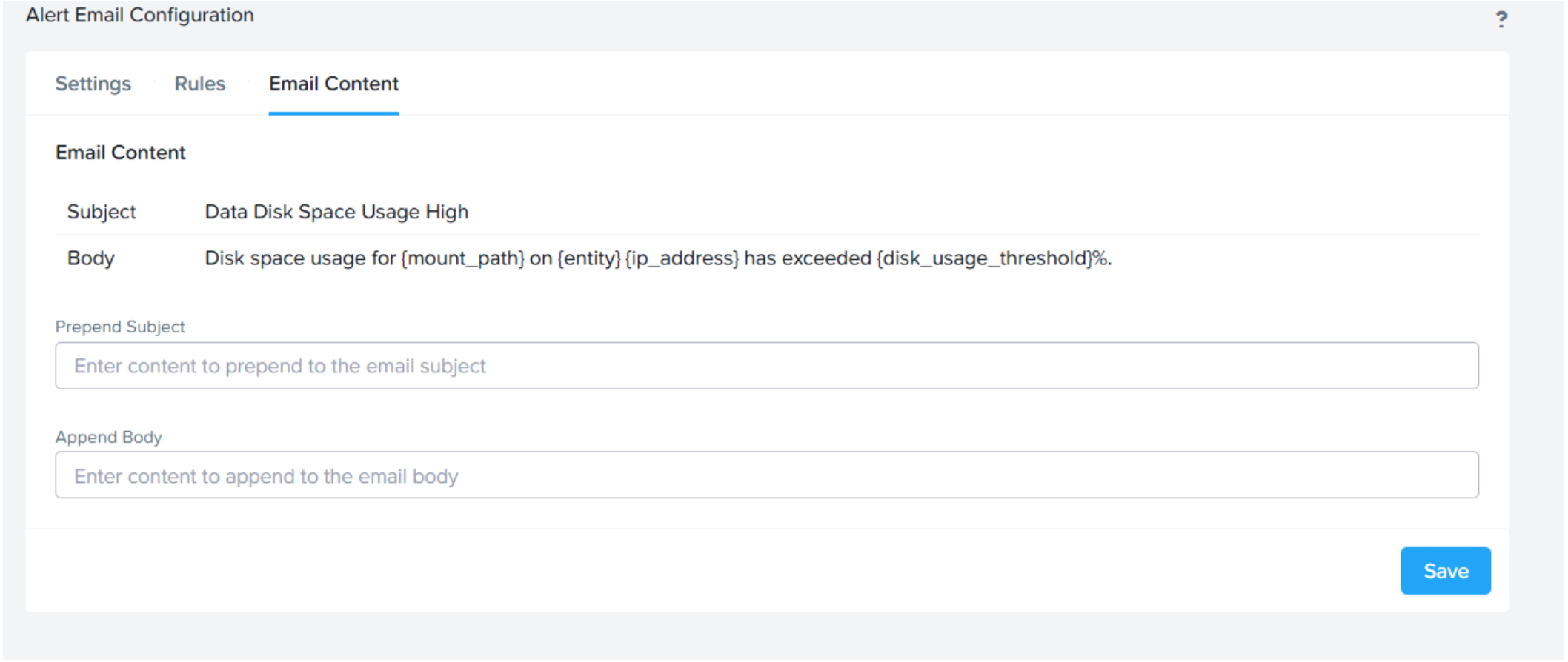
Tunning cluster

- 4 configure email



Tunning cluster

- 4 configure email



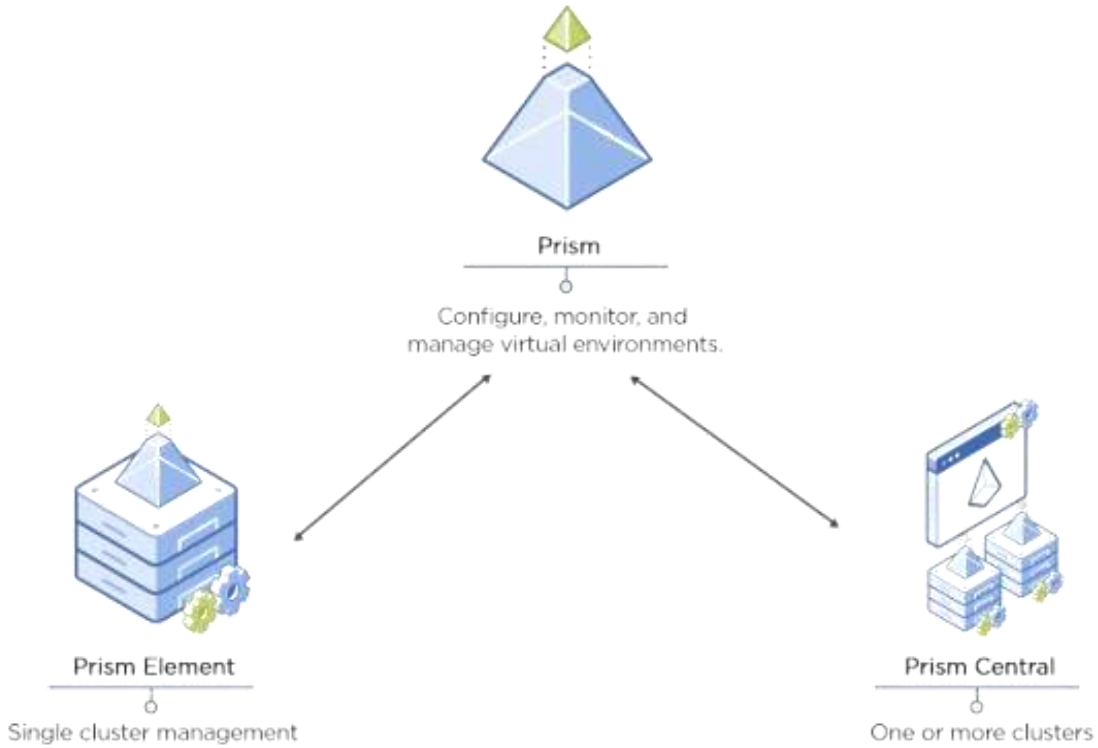
What is Nutanix Prism?

Nutanix Prism (Prism) provides central access for administrators to **configure, monitor, and manage** virtual environments by combining several aspects of data center management into a single, easy-to-use solution.

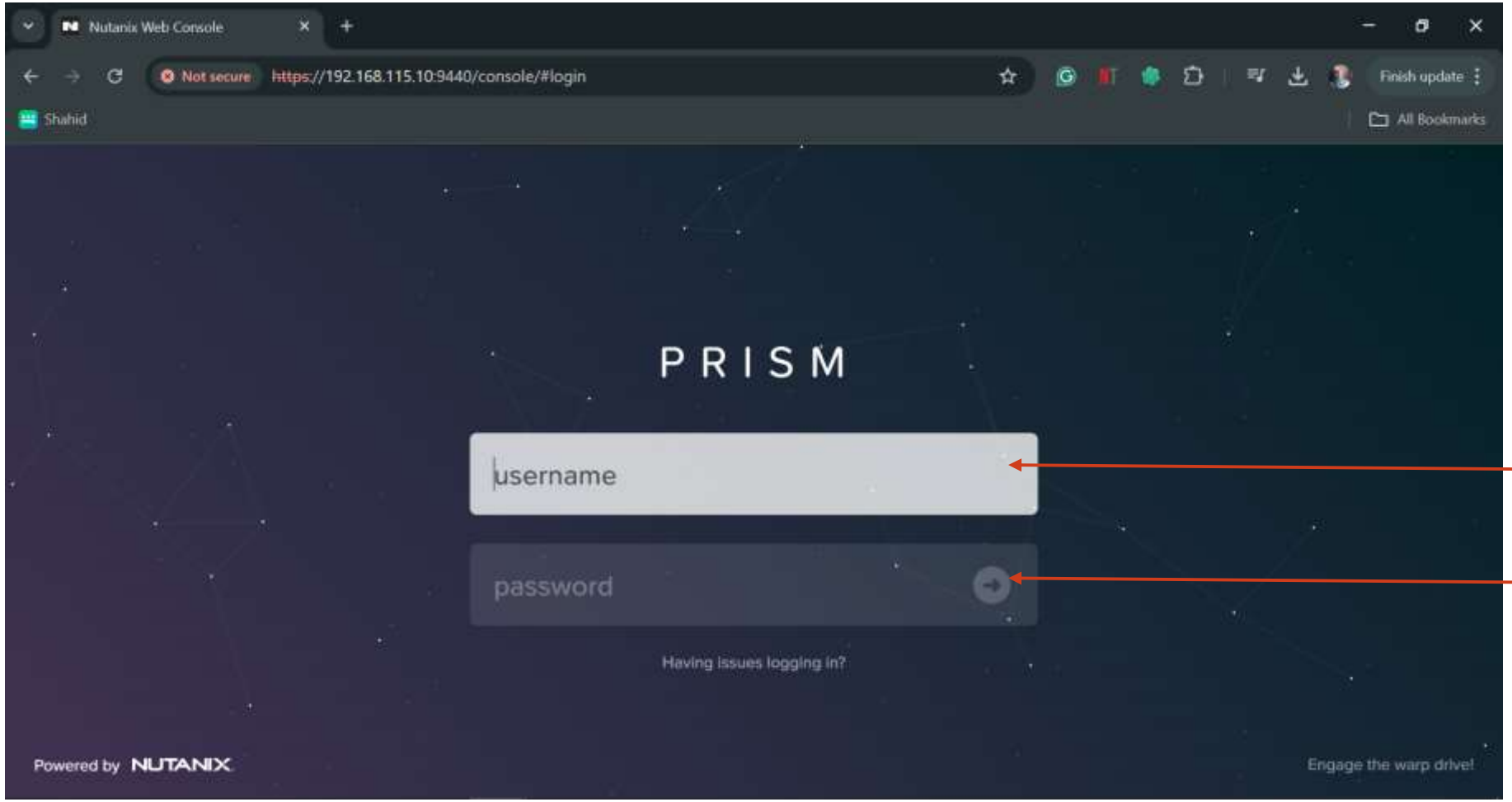
What is Nutanix Prism?

Prism is a part of every Nutanix deployment and has two core components:

- Prism Element
- Prism Central

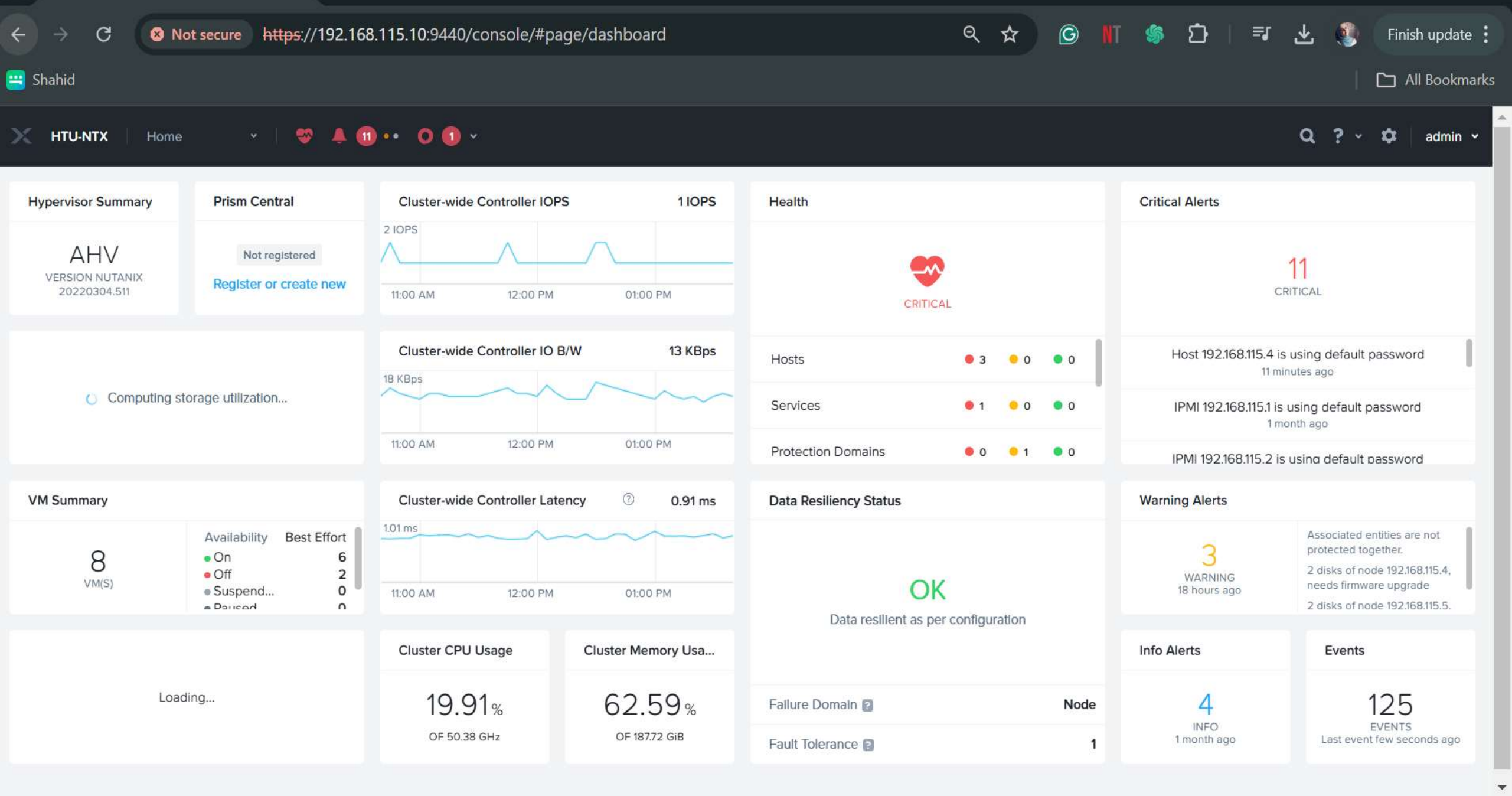


Prism Element



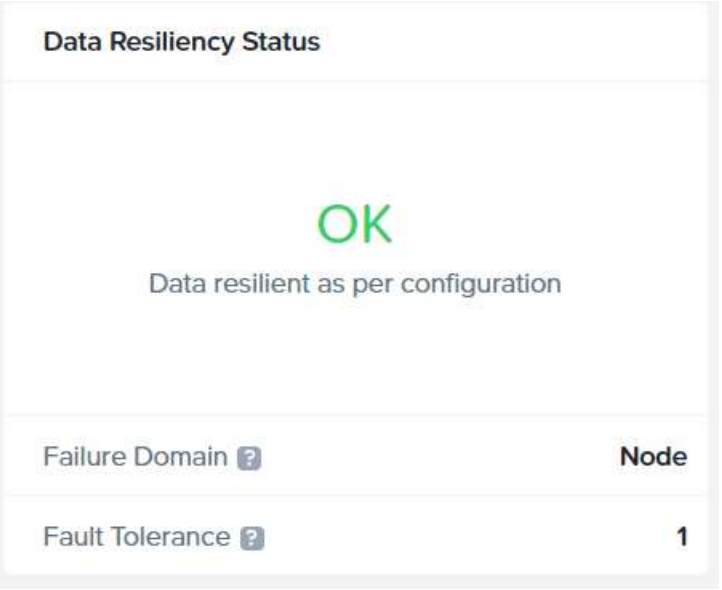
htu

HTU@jO_2024


Not secure
https://192.168.115.10:9440/console/#page/dashboard
Finish update
Shahid
All Bookmarks
HTU-NTX
Home
11
1
admin
Hypervisor Summary
AHV
VERSION NUTANIX
20220304.511
Prism Central
Not registered
Register or create new
Cluster-wide Controller IOPS
1 IOPS
2 IOPS
11:00 AM
12:00 PM
01:00 PM
Health
CRITICAL
Critical Alerts
11
CRITICAL
Computing storage utilization...
Cluster-wide Controller IO B/W
13 KBps
18 KBps
11:00 AM
12:00 PM
01:00 PM
Hosts 3 0 0
Services 1 0 0
Protection Domains 0 1 0
Host 192.168.115.4 is using default password
11 minutes ago
IPMI 192.168.115.1 is using default password
1 month ago
IPMI 192.168.115.2 is using default password
VM Summary
8
VM(S)
Availability Best Effort
On 6
Off 2
Suspend... 0
Cluster-wide Controller Latency
0.91 ms
1.01 ms
11:00 AM
12:00 PM
01:00 PM
Data Resiliency Status
OK
Data resilient as per configuration
Failure Domain Node
Fault Tolerance 1
Warning Alerts
3
WARNING
18 hours ago
Associated entities are not protected together.
2 disks of node 192.168.115.4, needs firmware upgrade
2 disks of node 192.168.115.5.
Loading...
Cluster CPU Usage
19.91%
OF 50.38 GHz
Cluster Memory Usa...
62.59%
OF 187.72 GiB
Info Alerts
4
INFO
1 month ago
Events
125
EVENTS
Last event few seconds ago

Home

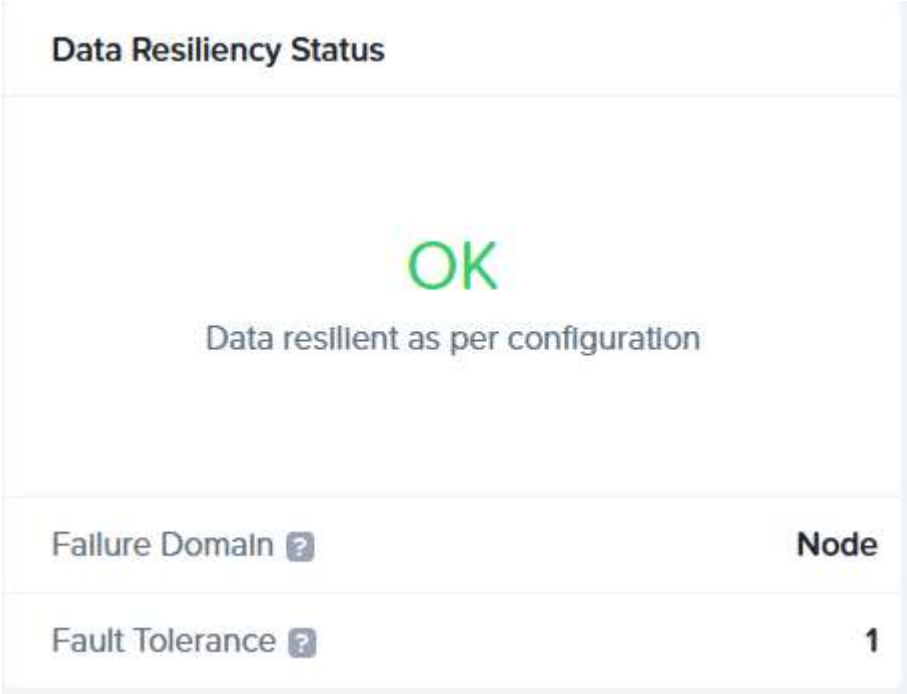
- The most important widget is Data Resiliency status.
- OK mean that no node nether CVM are down.
- CVM leader is the CVM take the lead of all CVM's.
- What happen if a node or CMV goes down??



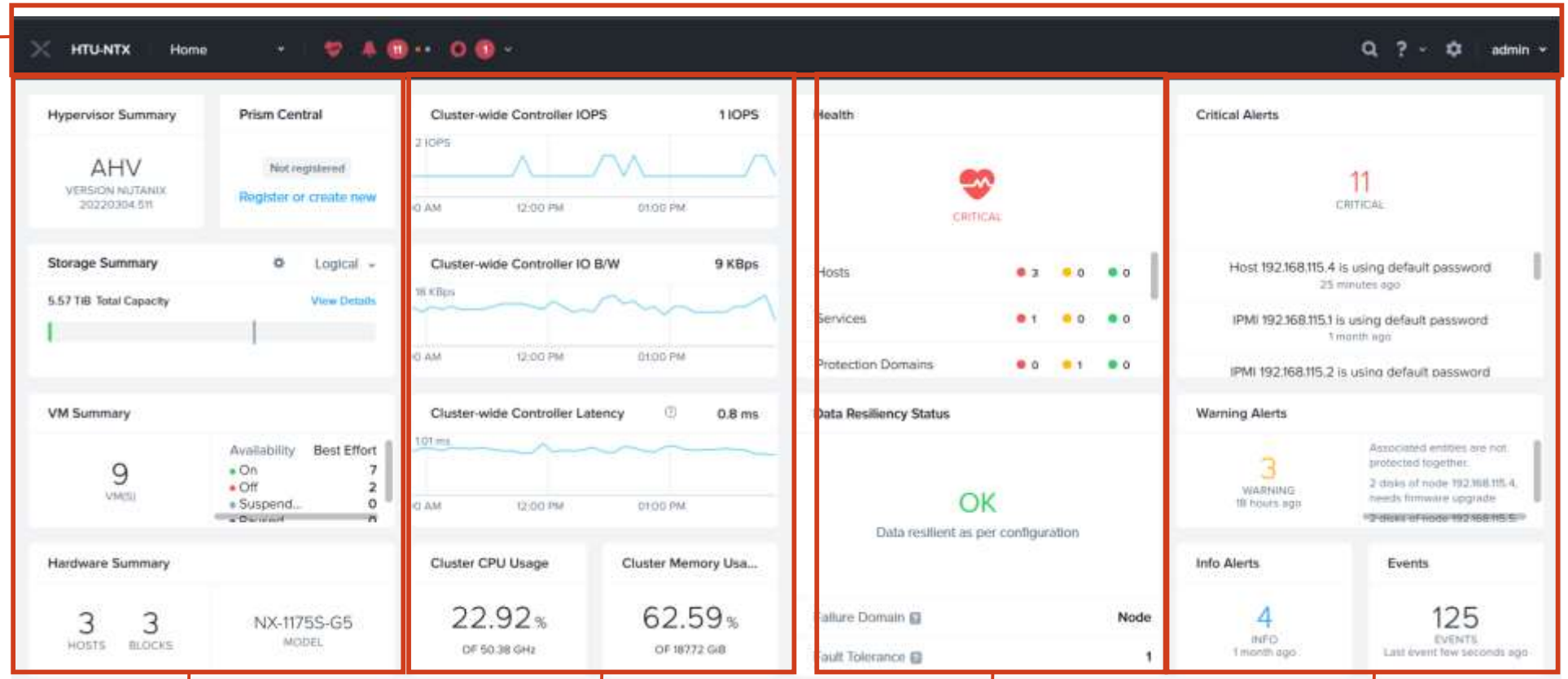
Health Widgets

The **Data Resiliency** Status widget summarizes the number of failures that a cluster can withstand. In the figure, the sample cluster used can withstand the failure of a single node. Moving your mouse cursor over the question marks next to Failure Domain and Fault Tolerance will display a small popup with more information about each item.

Clicking the widget will display a Data Resiliency Status details page, which shows how many individual component failures the cluster can withstand based on the currently configured failure domain



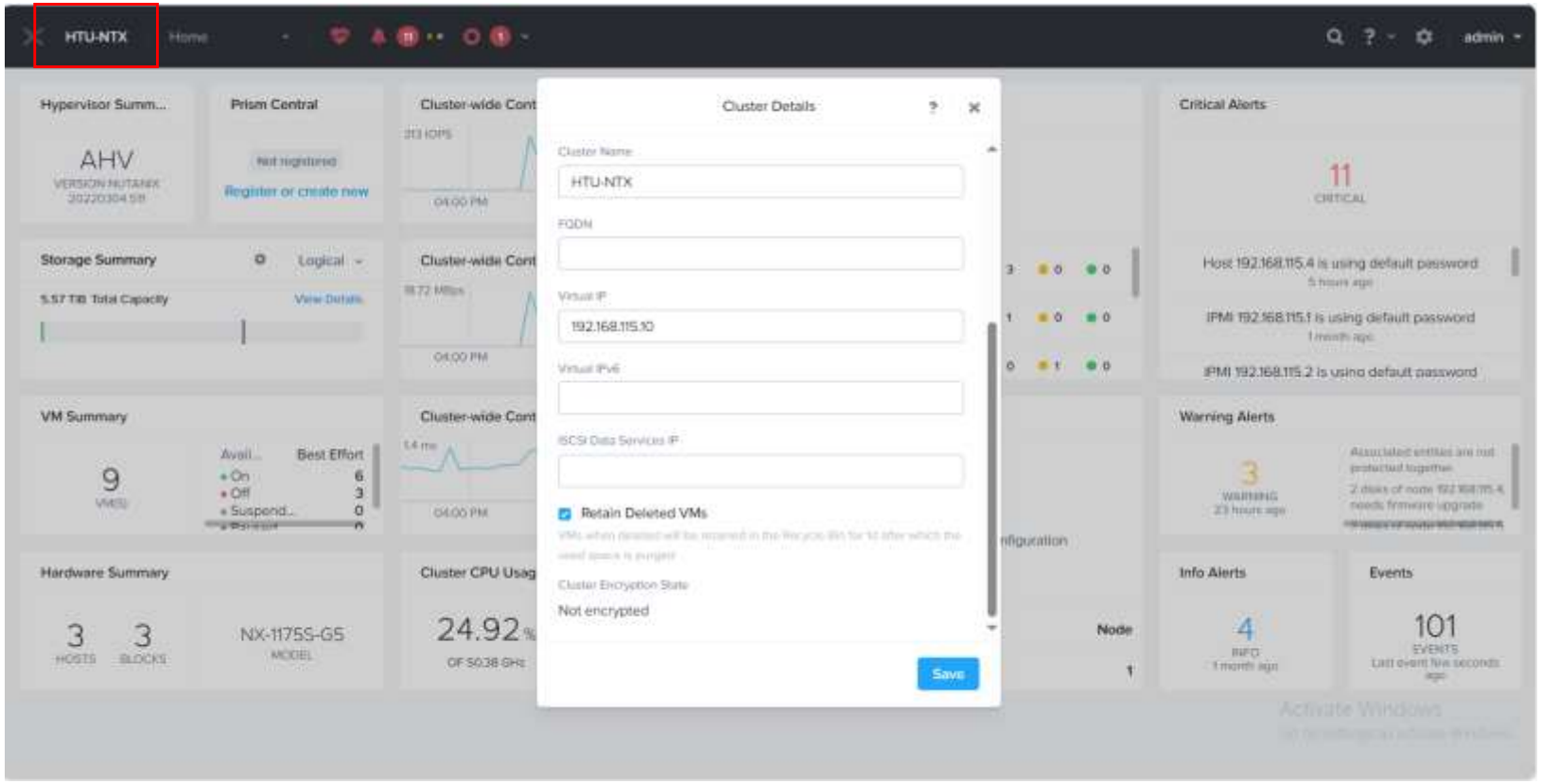
An Overview of the Prism Element Home Dashboard



Cluster Details Widgets

- to check cluster details click on cluster-name.

➔Retain Deleted VMs check it if you want any deleted Vm to be retain within 24 hours.



Cluster Details Widgets

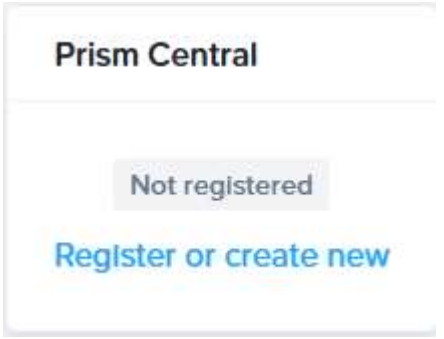
This collection of widgets displays basic information about:

- The installed hypervisor and the associated version.

Cluster Details Widgets

This collection of widgets displays basic information about:

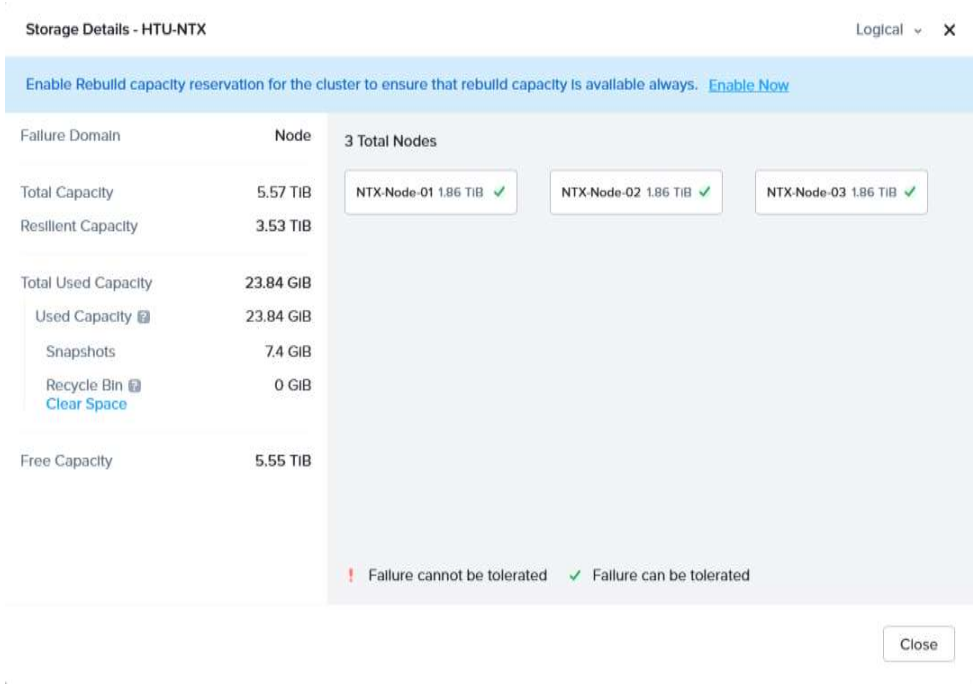
• Whether or not the cluster has been configured to Prism Central. If the cluster is configured to Prism Central, you can launch Prism Central directly from this widget.



Cluster Details Widgets

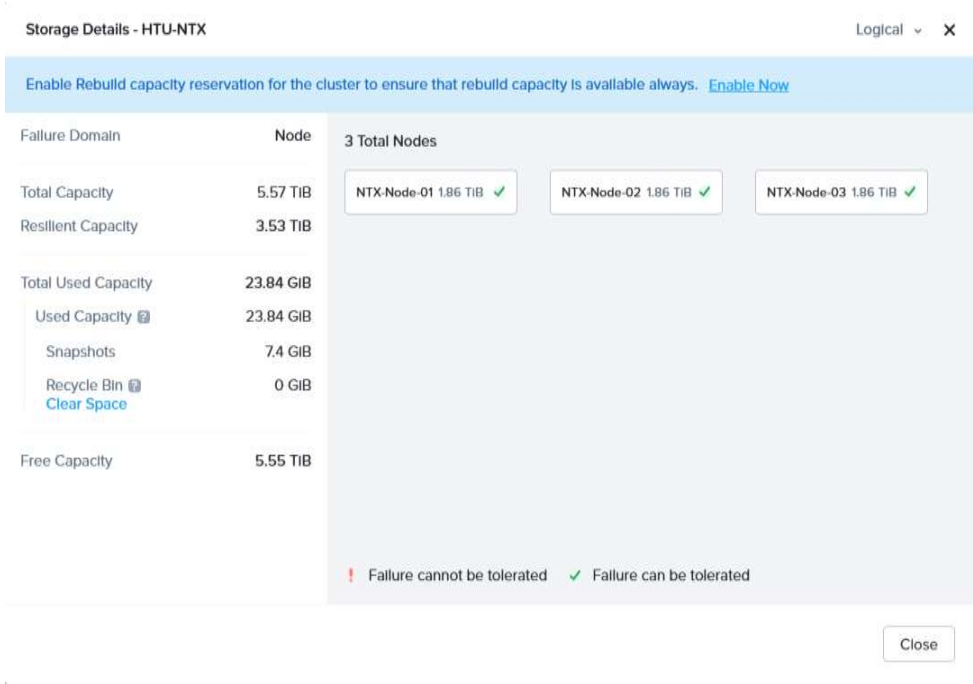
This collection of widgets displays basic information about:

• Storage on the cluster. Basic information is available at a glance and the widget is clickable, allowing you to view physical and logical storage information, configure an alert that will trigger if storage utilization crosses a specific threshold, and more



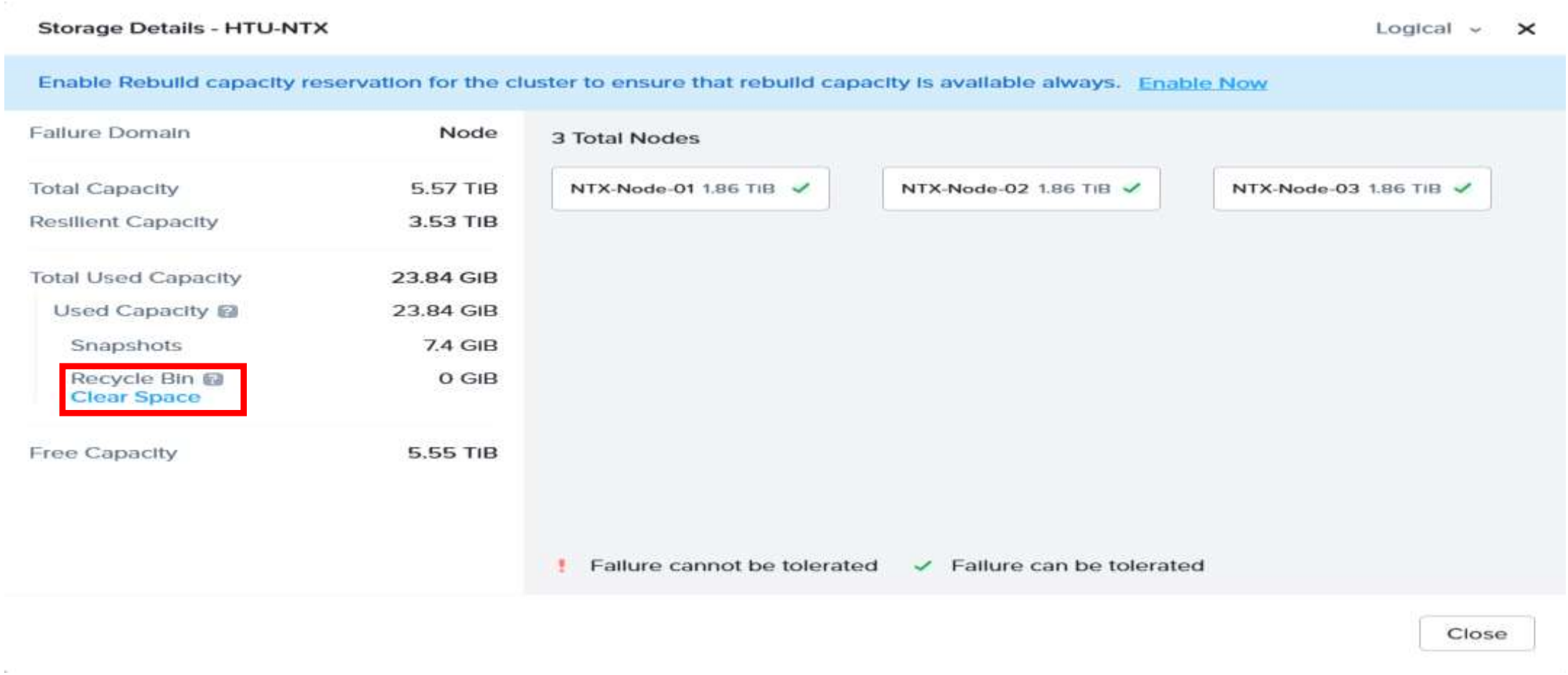
Cluster Details Widgets

- **Total capacity= available capacity.**
- **Resilient capacity=3.53 out of 5.75**
- **Snapshots (i.e if any snapshot took).**



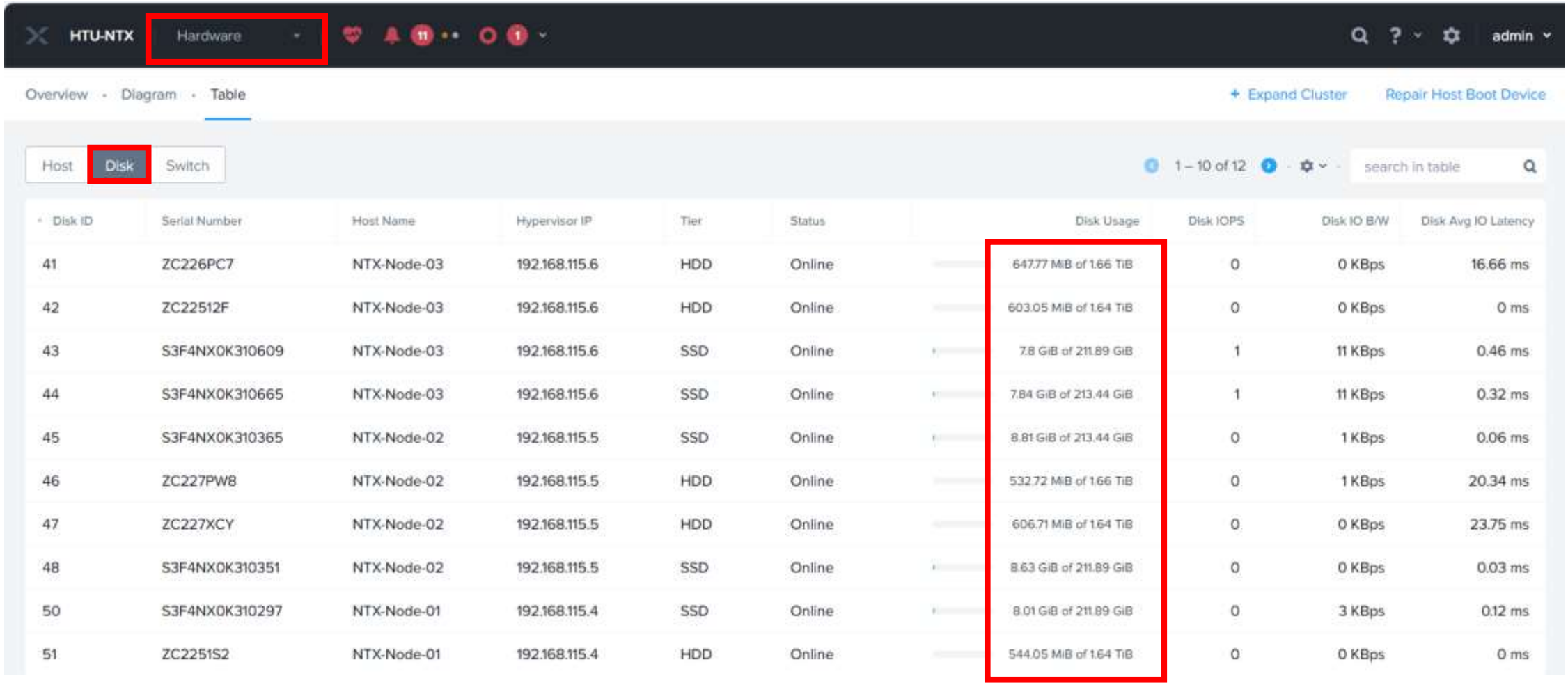
Cluster Details Widgets

How to empty recycle bin?



Cluster Details Widgets

How to review cluster actual storage size?



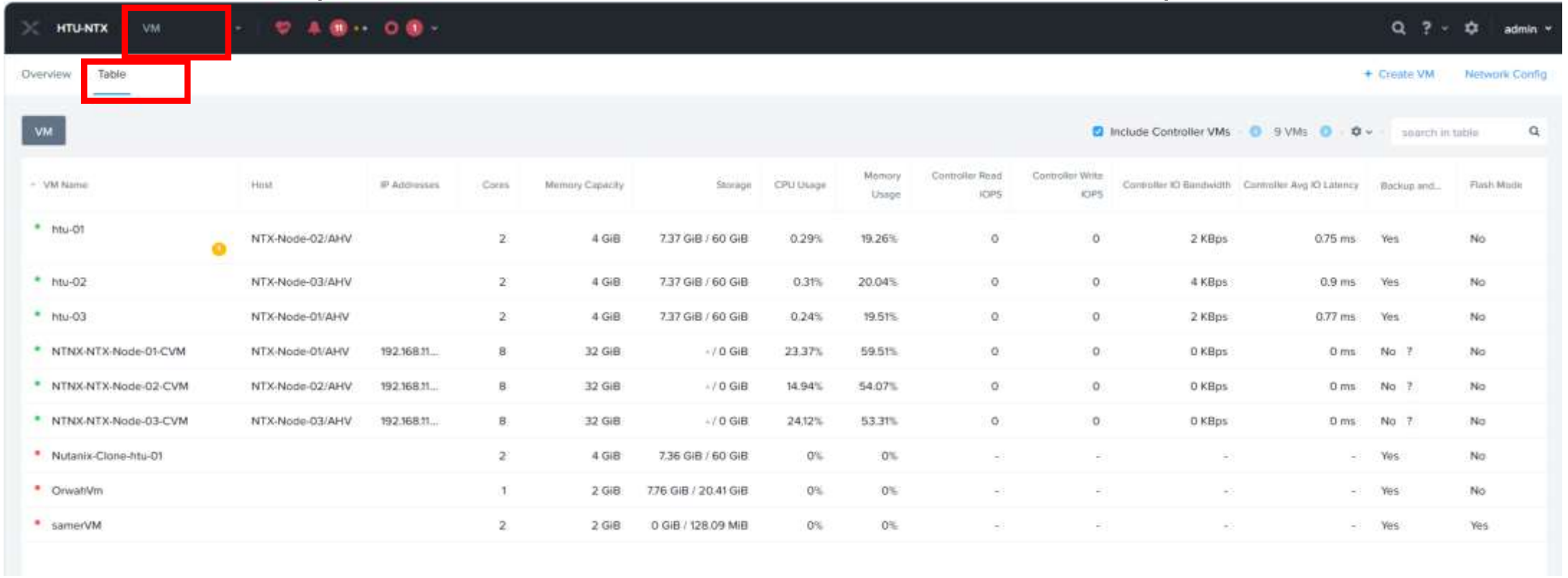
Disk ID	Serial Number	Host Name	Hypervisor IP	Tier	Status	Disk Usage	Disk IOPS	Disk IO B/W	Disk Avg IO Latency
41	ZC226PC7	NTX-Node-03	192.168.115.6	HDD	Online	647.77 MiB of 1.66 TiB	0	0 KBps	16.66 ms
42	ZC22512F	NTX-Node-03	192.168.115.6	HDD	Online	603.05 MiB of 1.64 TiB	0	0 KBps	0 ms
43	S3F4NX0K310609	NTX-Node-03	192.168.115.6	SSD	Online	7.8 GiB of 211.89 GiB	1	11 KBps	0.46 ms
44	S3F4NX0K310665	NTX-Node-03	192.168.115.6	SSD	Online	7.84 GiB of 213.44 GiB	1	11 KBps	0.32 ms
45	S3F4NX0K310365	NTX-Node-02	192.168.115.5	SSD	Online	8.81 GiB of 213.44 GiB	0	1 KBps	0.06 ms
46	ZC227PW8	NTX-Node-02	192.168.115.5	HDD	Online	532.72 MiB of 1.66 TiB	0	1 KBps	20.34 ms
47	ZC227XCY	NTX-Node-02	192.168.115.5	HDD	Online	606.71 MiB of 1.64 TiB	0	0 KBps	23.75 ms
48	S3F4NX0K310351	NTX-Node-02	192.168.115.5	SSD	Online	8.63 GiB of 211.89 GiB	0	0 KBps	0.03 ms
50	S3F4NX0K310297	NTX-Node-01	192.168.115.4	SSD	Online	8.01 GiB of 211.89 GiB	0	3 KBps	0.12 ms
51	ZC2251S2	NTX-Node-01	192.168.115.4	HDD	Online	544.05 MiB of 1.64 TiB	0	0 KBps	0 ms

Cluster Details Widgets

- The VMs installed on the cluster. The widget groups VMs by state (on, off, suspended, paused, and unknown).

Cluster Details Widgets

- To check VM'S (You can notice that cluster has 3 VM's Off)



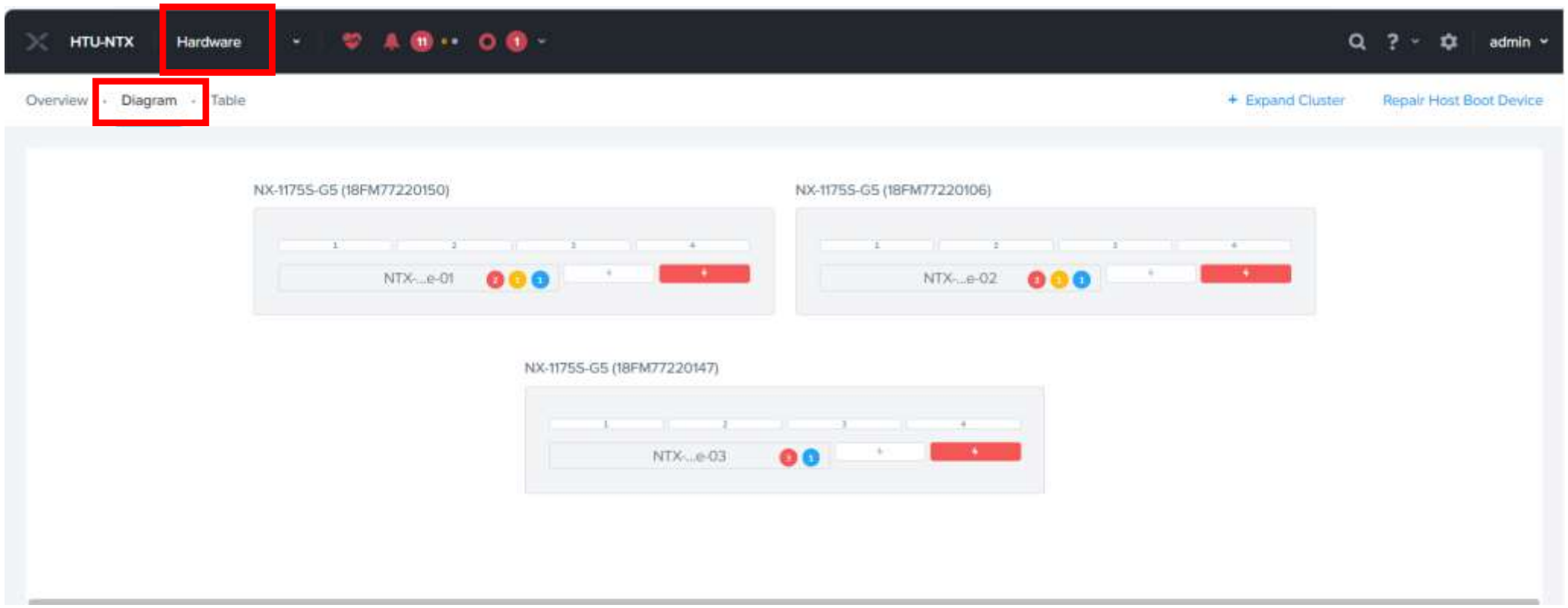
VM Name	Host	IP Addresses	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read IOPS	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Backup and...	Flash Mode
htu-01	NTX-Node-02/AHV		2	4 GiB	7.37 GiB / 60 GiB	0.29%	19.26%	0	0	2 KBps	0.75 ms	Yes	No
htu-02	NTX-Node-03/AHV		2	4 GiB	7.37 GiB / 60 GiB	0.31%	20.04%	0	0	4 KBps	0.9 ms	Yes	No
htu-03	NTX-Node-01/AHV		2	4 GiB	7.37 GiB / 60 GiB	0.24%	19.51%	0	0	2 KBps	0.77 ms	Yes	No
NTNX-NTX-Node-01-CVM	NTX-Node-01/AHV	192.168.11...	8	32 GiB	- / 0 GiB	23.37%	59.51%	0	0	0 KBps	0 ms	No	No
NTNX-NTX-Node-02-CVM	NTX-Node-02/AHV	192.168.11...	8	32 GiB	- / 0 GiB	14.94%	54.07%	0	0	0 KBps	0 ms	No	No
NTNX-NTX-Node-03-CVM	NTX-Node-03/AHV	192.168.11...	8	32 GiB	- / 0 GiB	24.12%	53.31%	0	0	0 KBps	0 ms	No	No
Nutanix-Clone-htu-01			2	4 GiB	7.36 GiB / 60 GiB	0%	0%	-	-	-	-	Yes	No
OrwahVm			1	2 GiB	7.76 GiB / 20.41 GiB	0%	0%	-	-	-	-	Yes	No
samerVM			2	2 GiB	0 GiB / 128.09 MiB	0%	0%	-	-	-	-	Yes	Yes

Cluster Details Widgets

- Cluster hardware. The widget displays the number of hosts (or nodes) and blocks in the cluster, as well as the model number of the blocks if applicable. A node is an x86 server with compute and storage resources. A single cluster can have a maximum of 32 nodes for an AHV cluster and 48 nodes for an ESXi cluster.
- Each block can have maximum of 2 host (node)

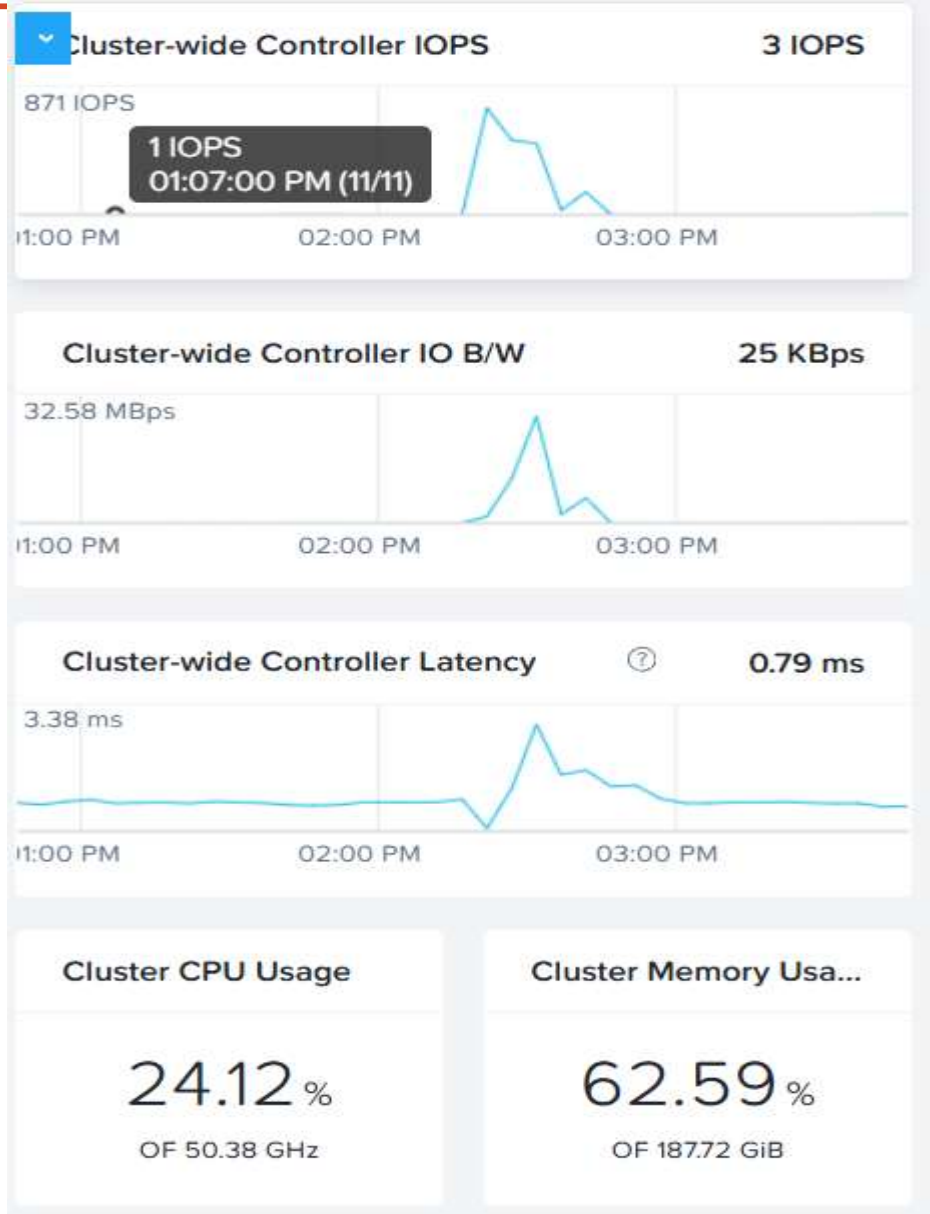
Cluster Details Widgets

- To check cluster Hardwar (Blocks and nodes)



Performance Widgets

- By default, Prism Element displays a number of performance charts and statistics on the Home dashboard, designed to help you assess cluster performance at a glance.
- Moving the mouse cursor over any one of the three charts will display a button at the top left that will allow you to add a temporary, custom chart to the Analysis dashboard in Prism Element. You will be prompted to save the chart on the Analysis dashboard for future viewing.



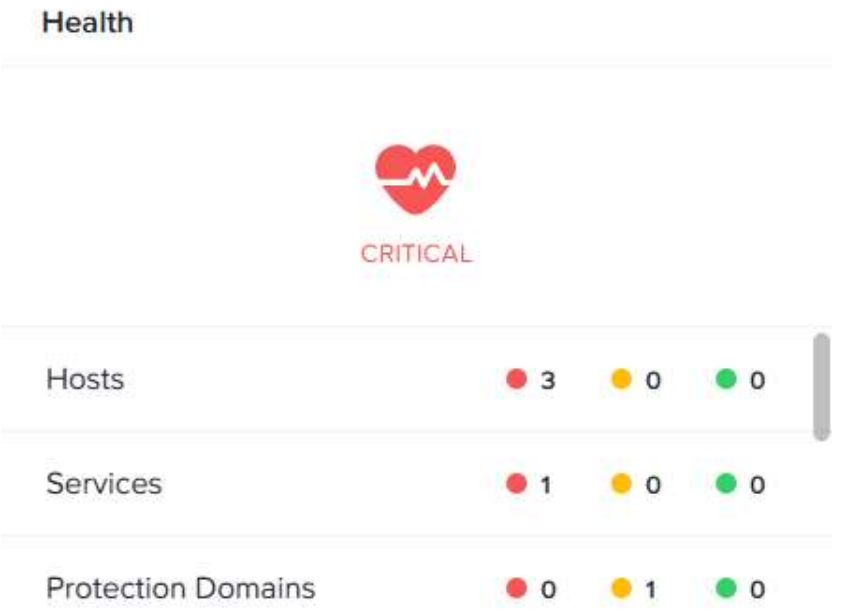
Performance Widgets

- On the Home dashboard, moving your mouse cursor over the graph itself will display details for a specific point in time.
- Moving your mouse cursor over the Cluster CPU Usage or Cluster Memory Usage widgets will display an Analyze button. Click this button to add a temporary, custom chart to the Analysis dashboard

Health Widgets

The Health widget displays the **health status** for the cluster as a whole, as well as cluster entities. The three possible health states are **good, warning, and critical,** indicated by green, yellow, and red heart icons respectively.

Scrolling down in the widget will display the health status of **hosts, VMs, cluster services, disks, storage containers, and storage pools.** Clicking the widget will take you to the Health dashboard, where you can view more details about each or all of these entities.



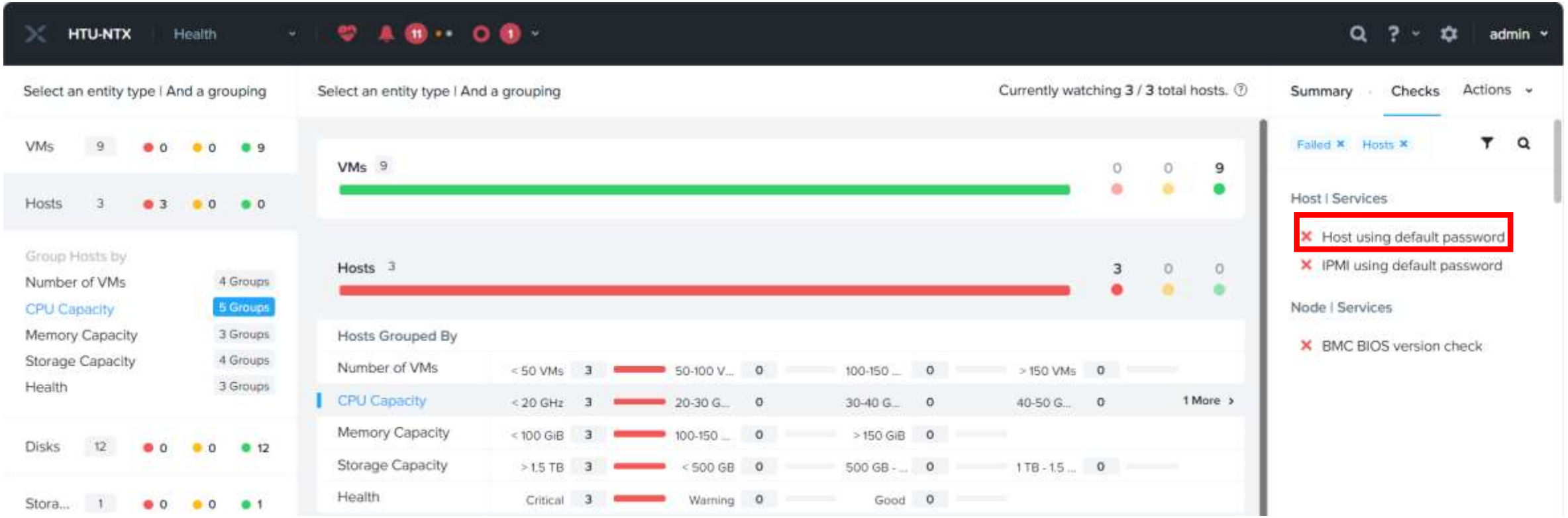
Health dashboard

Health dashboard

How to turn off any check?

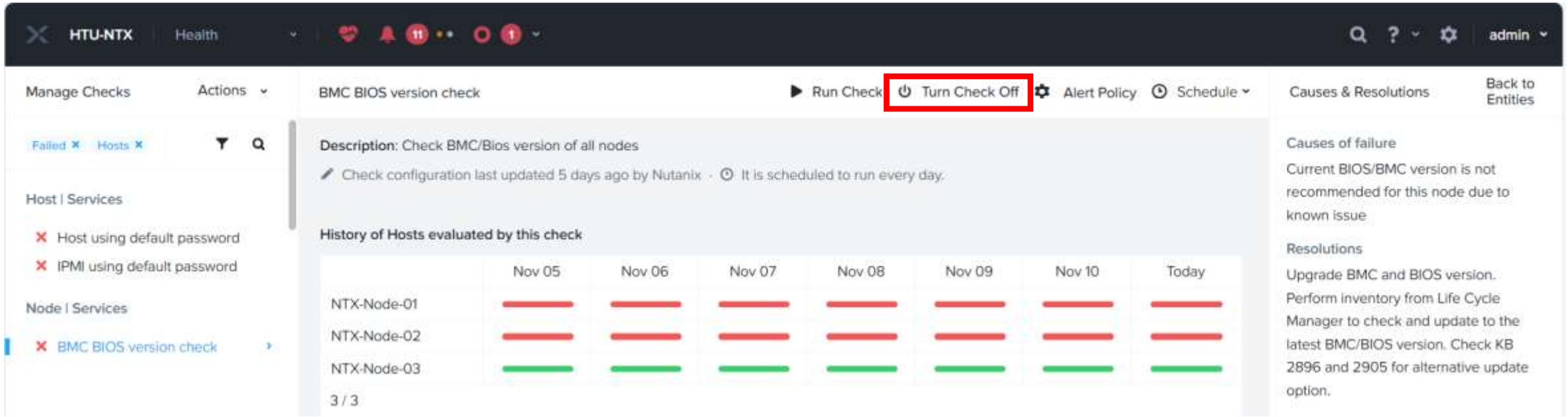
Health dashboard

How to turn off any check?

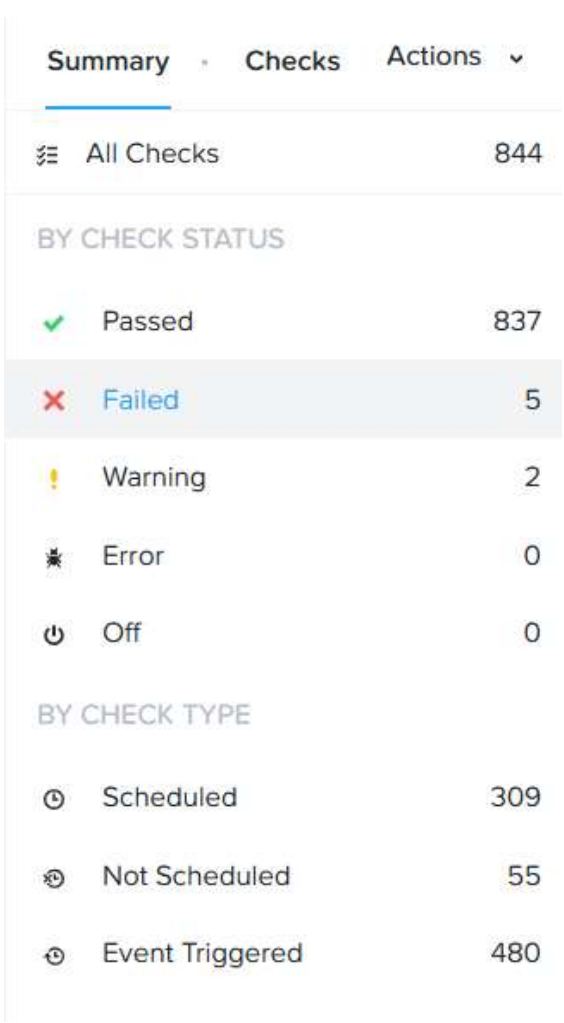


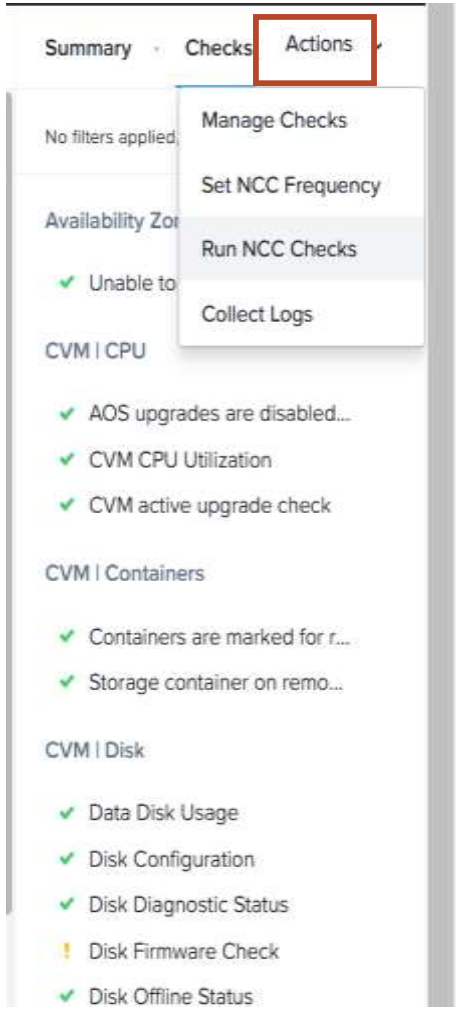
Health dashboard

How to turn off any check?



Health dashboard

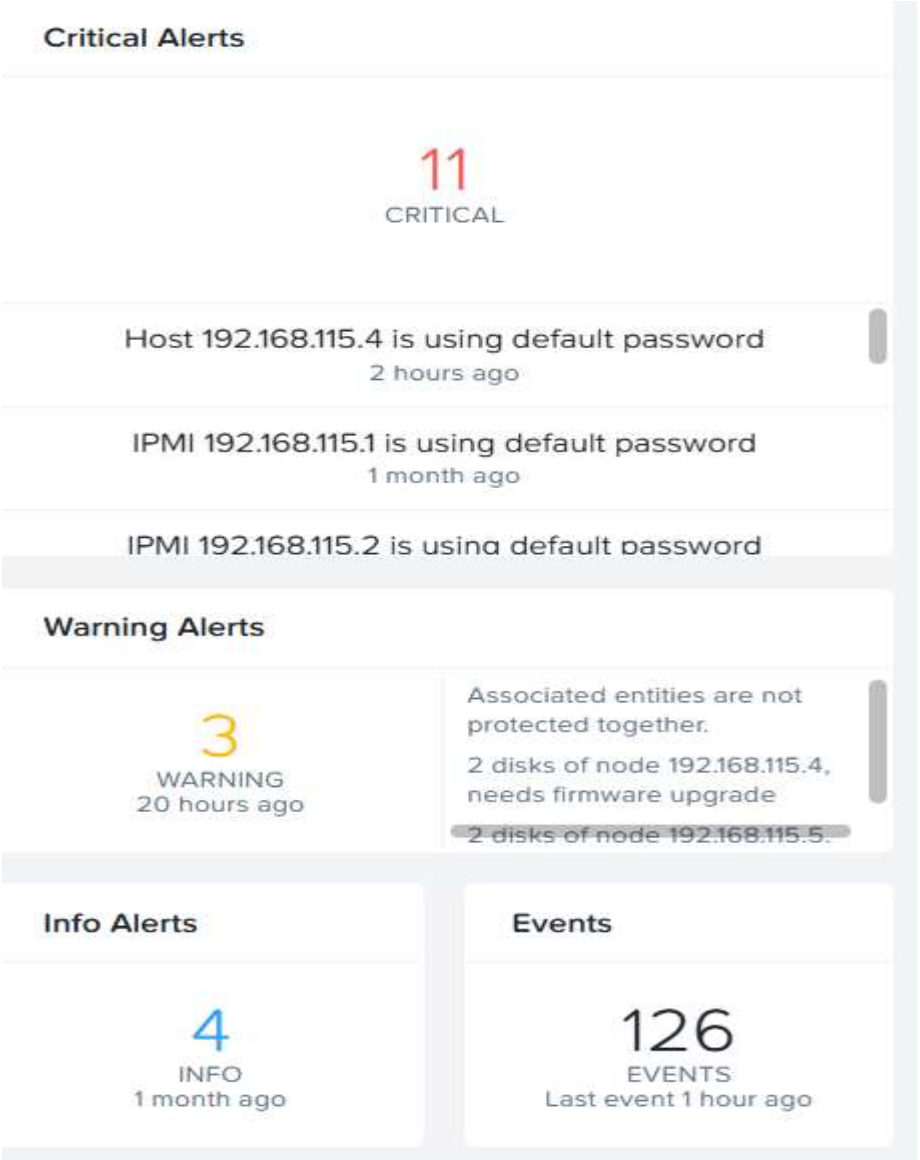




Running an **NCC (Nutanix Cluster Check)** is a key part of maintaining a Nutanix cluster's health and diagnosing potential issues.
NCC is a Nutanix utility that performs a series of health checks on various components within the Nutanix environment, including cluster configuration, hardware, software, and network. Running these checks can identify and help resolve issues proactively.

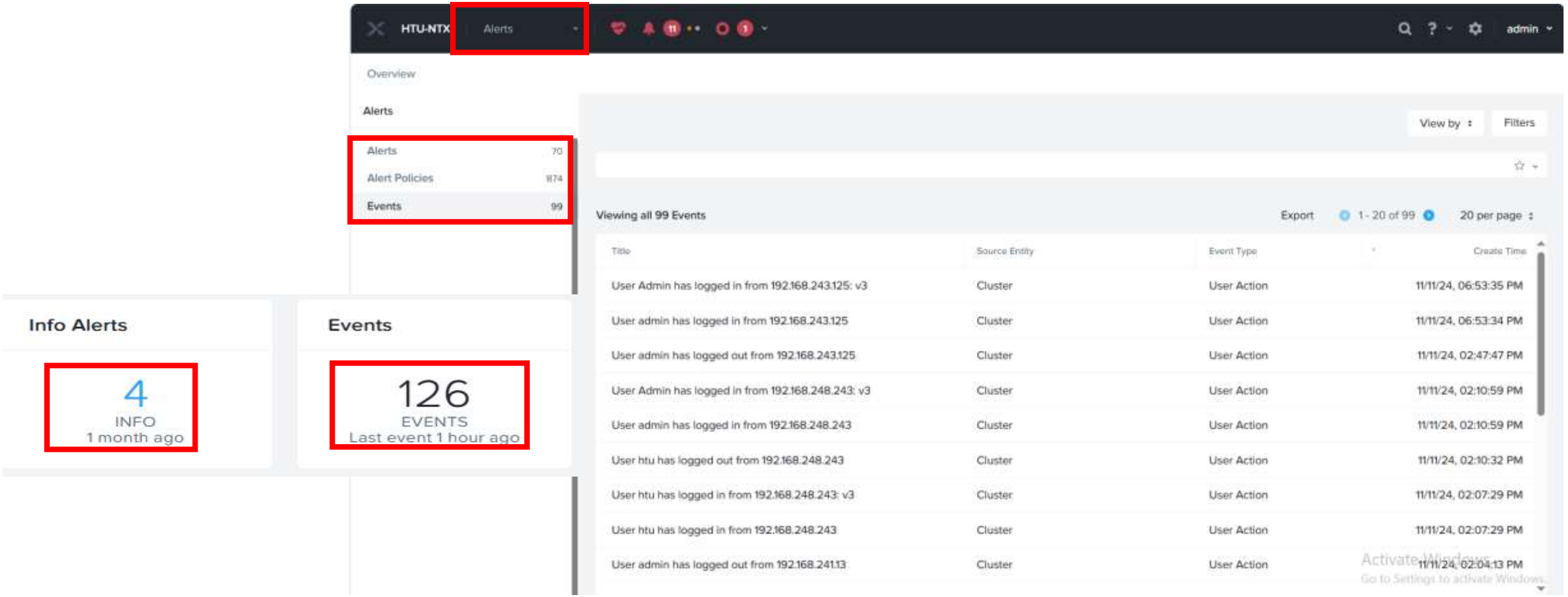
Alerts and Events Widgets

- The Alerts widgets display the most recent unresolved alerts on the cluster. Each set of alerts is displayed in a separate widget, with one widget each for critical, warning, and informational alerts.
- The Events widget displays the total number of events that have occurred on the cluster, as well as how recently the last event occurred.



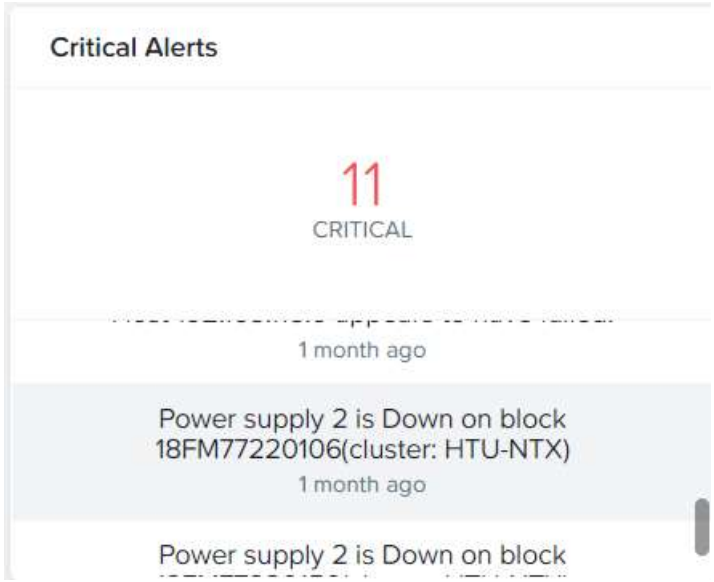
Alerts and Events Widgets

How to check events and alerts?



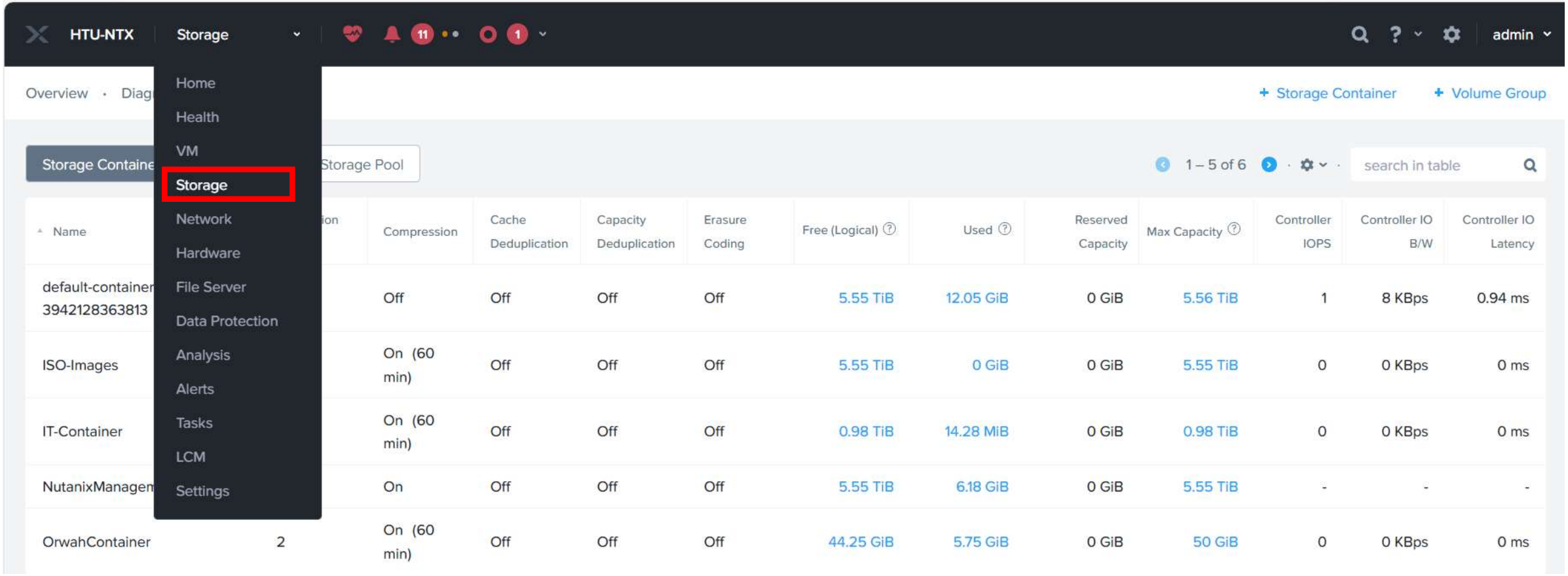
Alerts and Events Widgets

- what this Alert and why it happened???

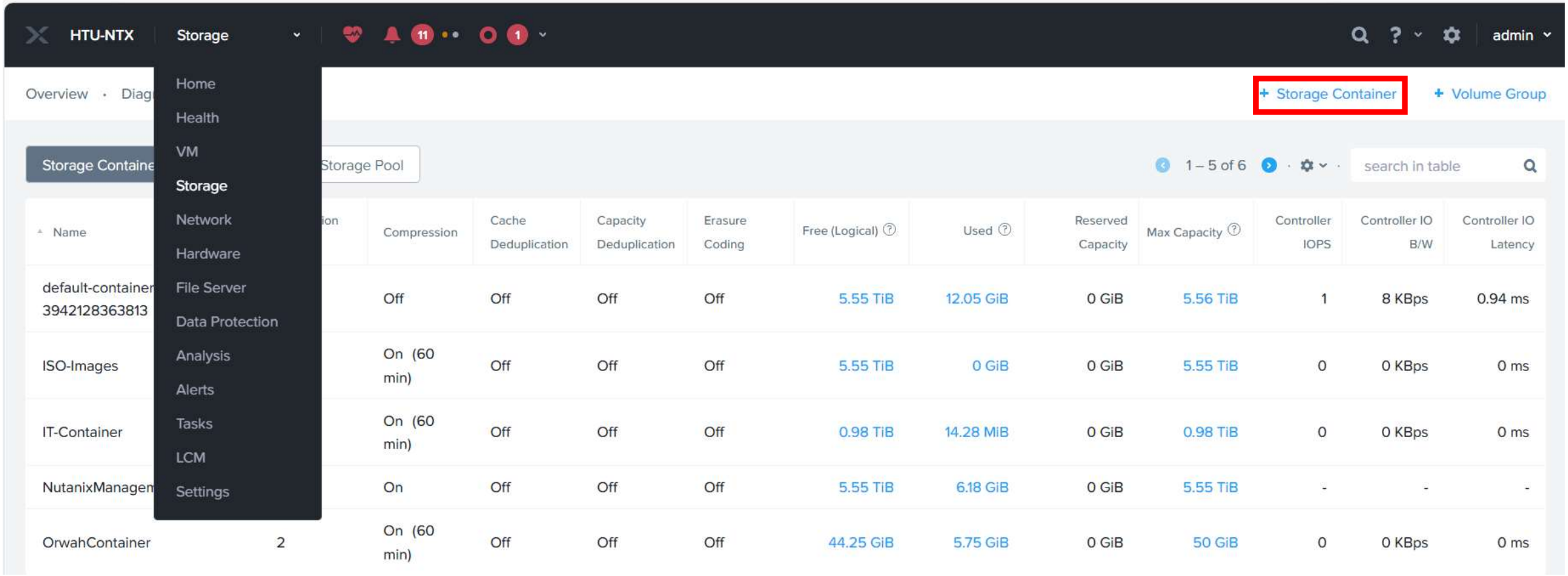


How to create virtual machine

- to create virtual machine first we need to create container.



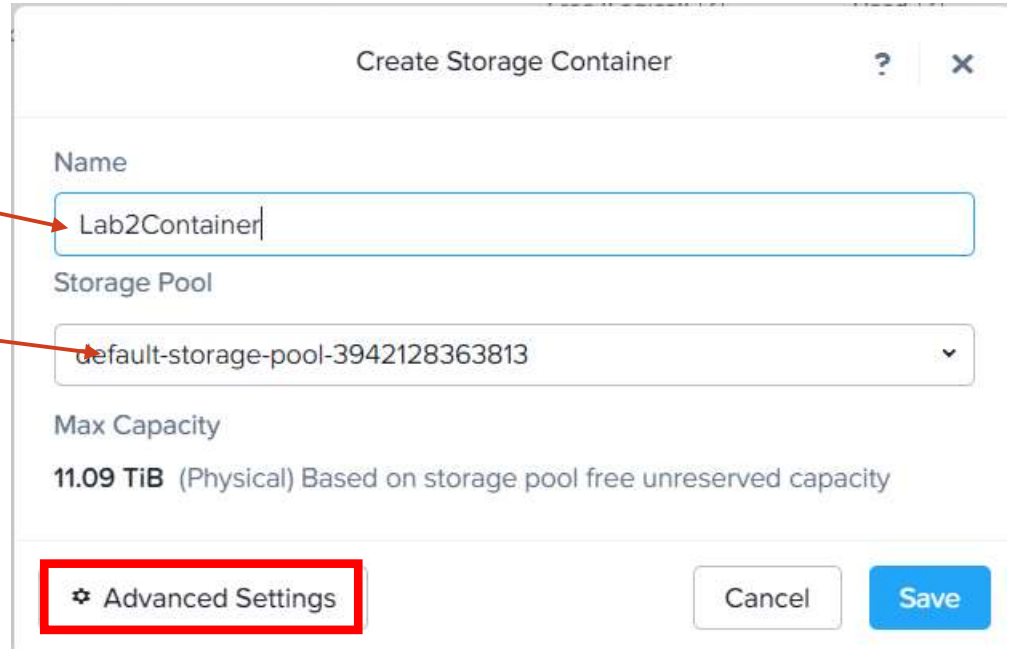
How to create virtual machine



How to create virtual machine

Name of container

Default storage

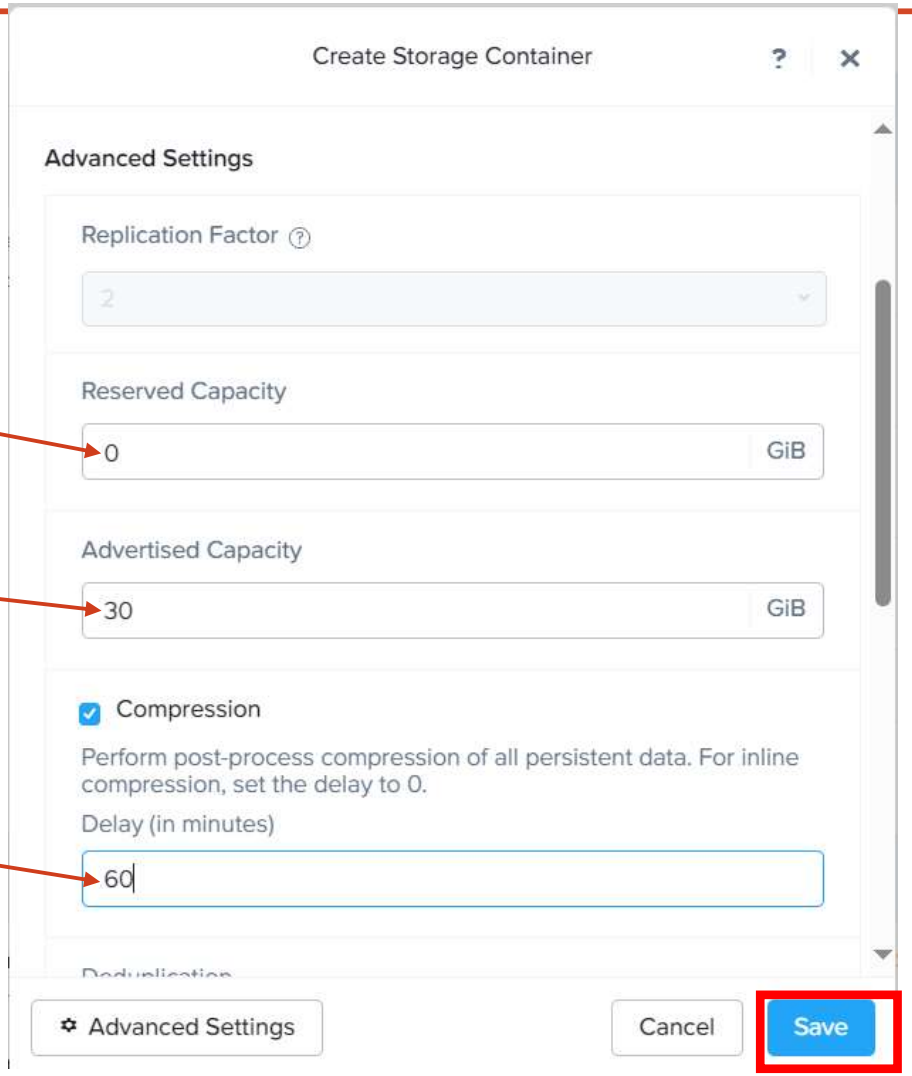


How to create virtual machine

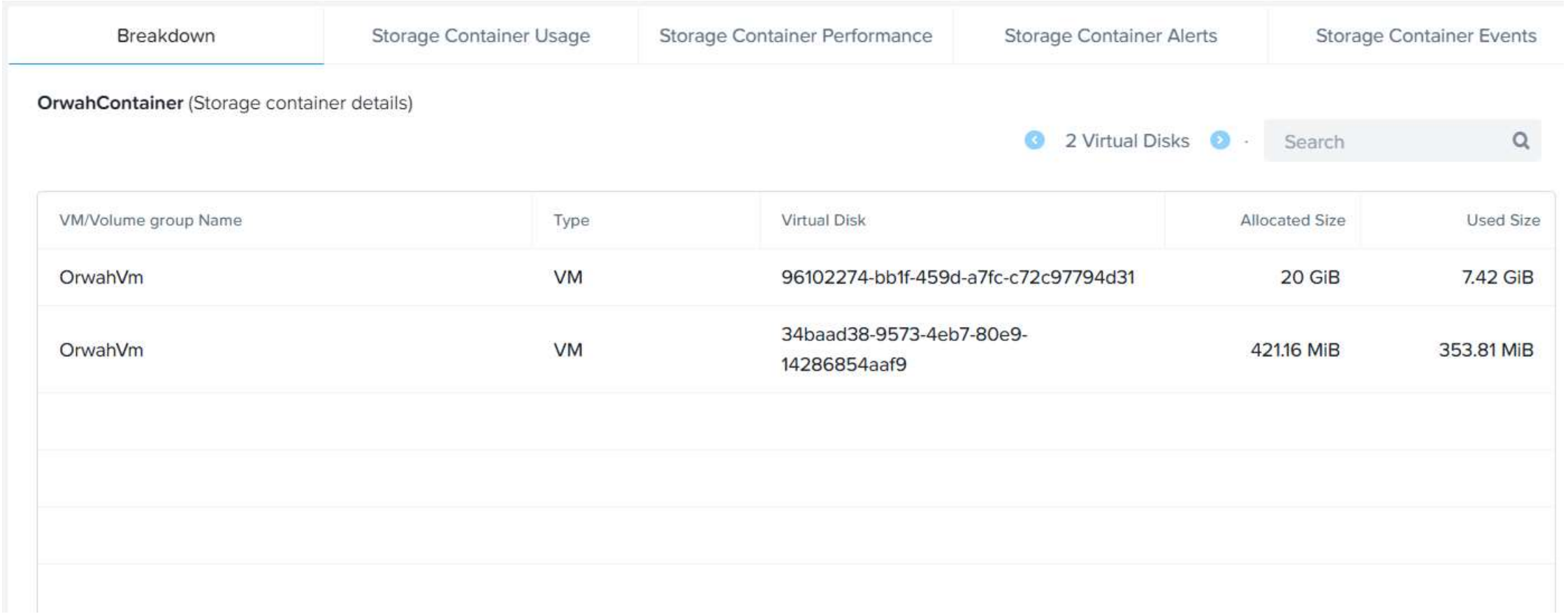
Fixed capacity even you use it or not

Alert you if container reach limit

0 for immediate compression , 60 after one hour delay

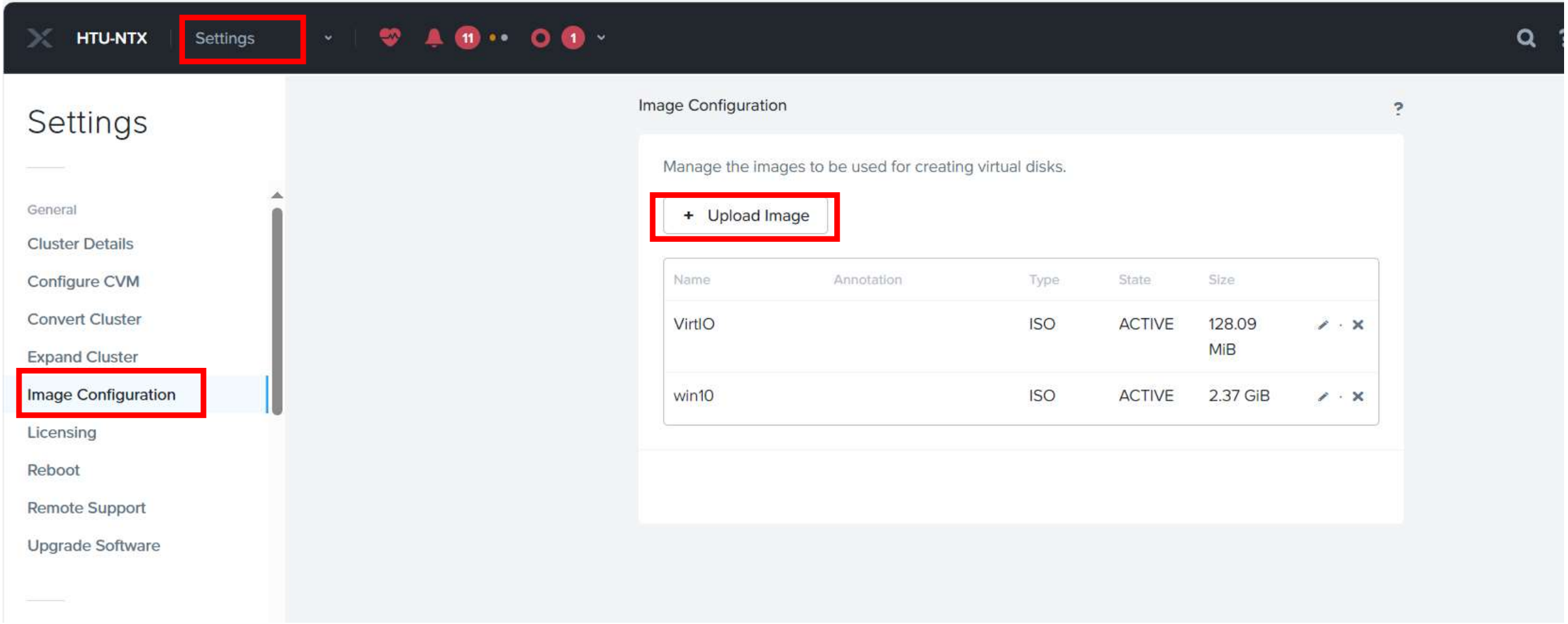


How to create virtual machine



How to create virtual machine

- After create container now we should upload ISO image for VM



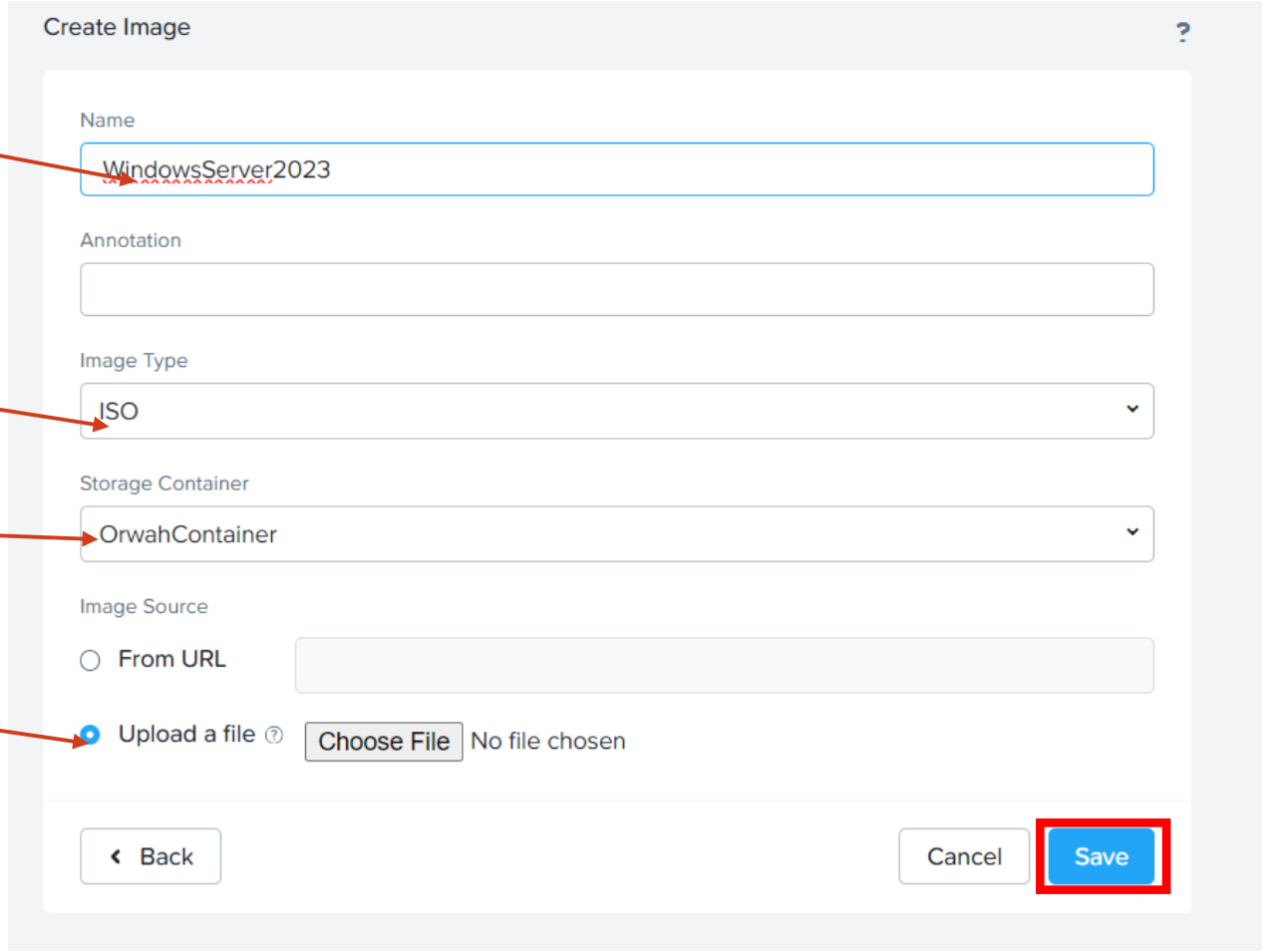
How to create virtual machine

Image Name

Image type, we choose ISO

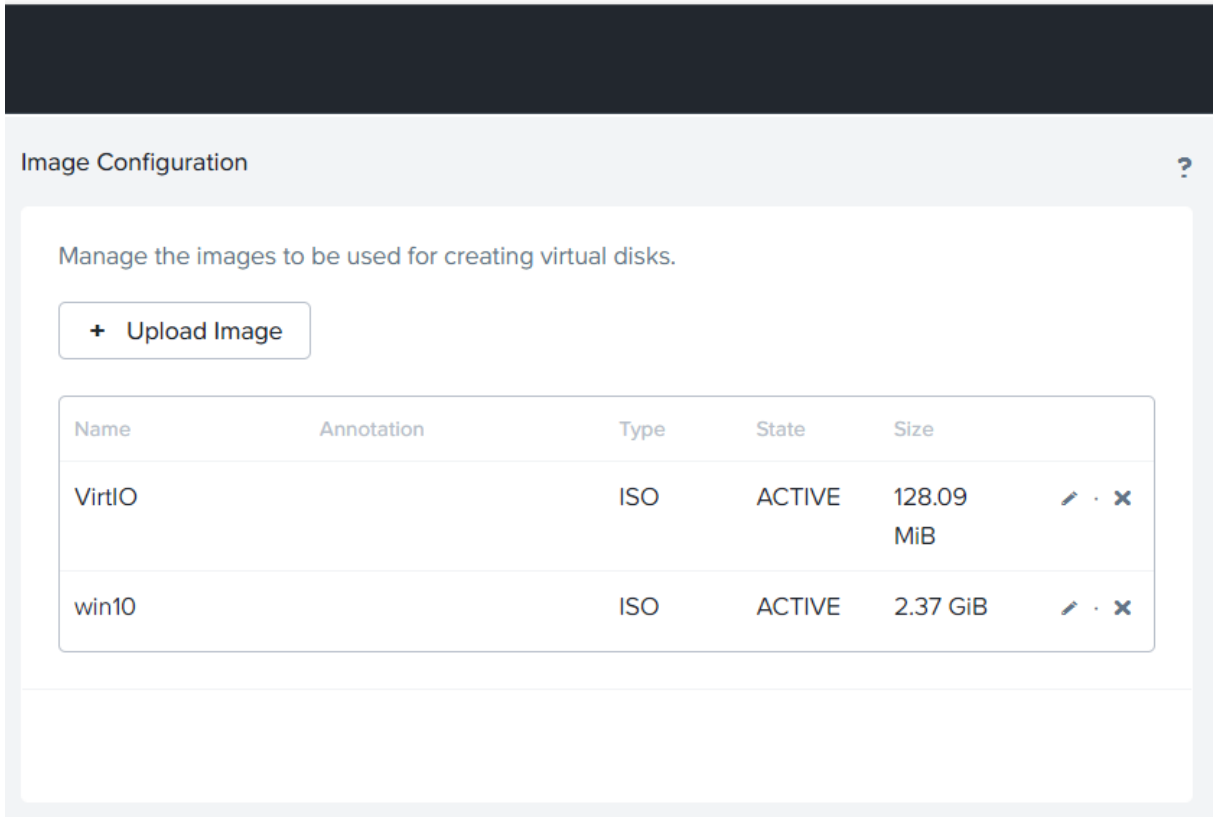
Container we just create

ISO Image downloaded before so we have it locally



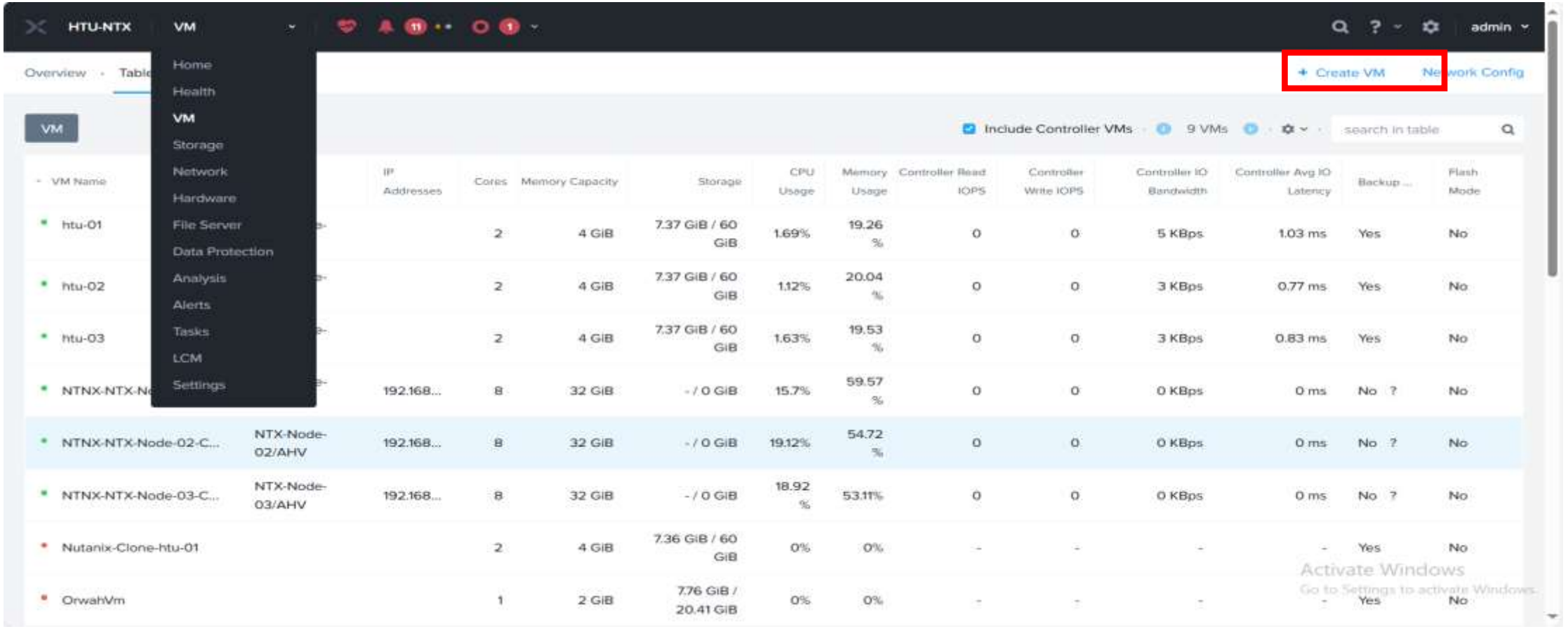
How to create virtual machine

- As we note that we already upload tow ISO images, one for windows 10 and the other is called Virtio, the second image we need it with every windows VM we create.



How to create virtual machine

- to create virtual machine first go to VM from the menu.



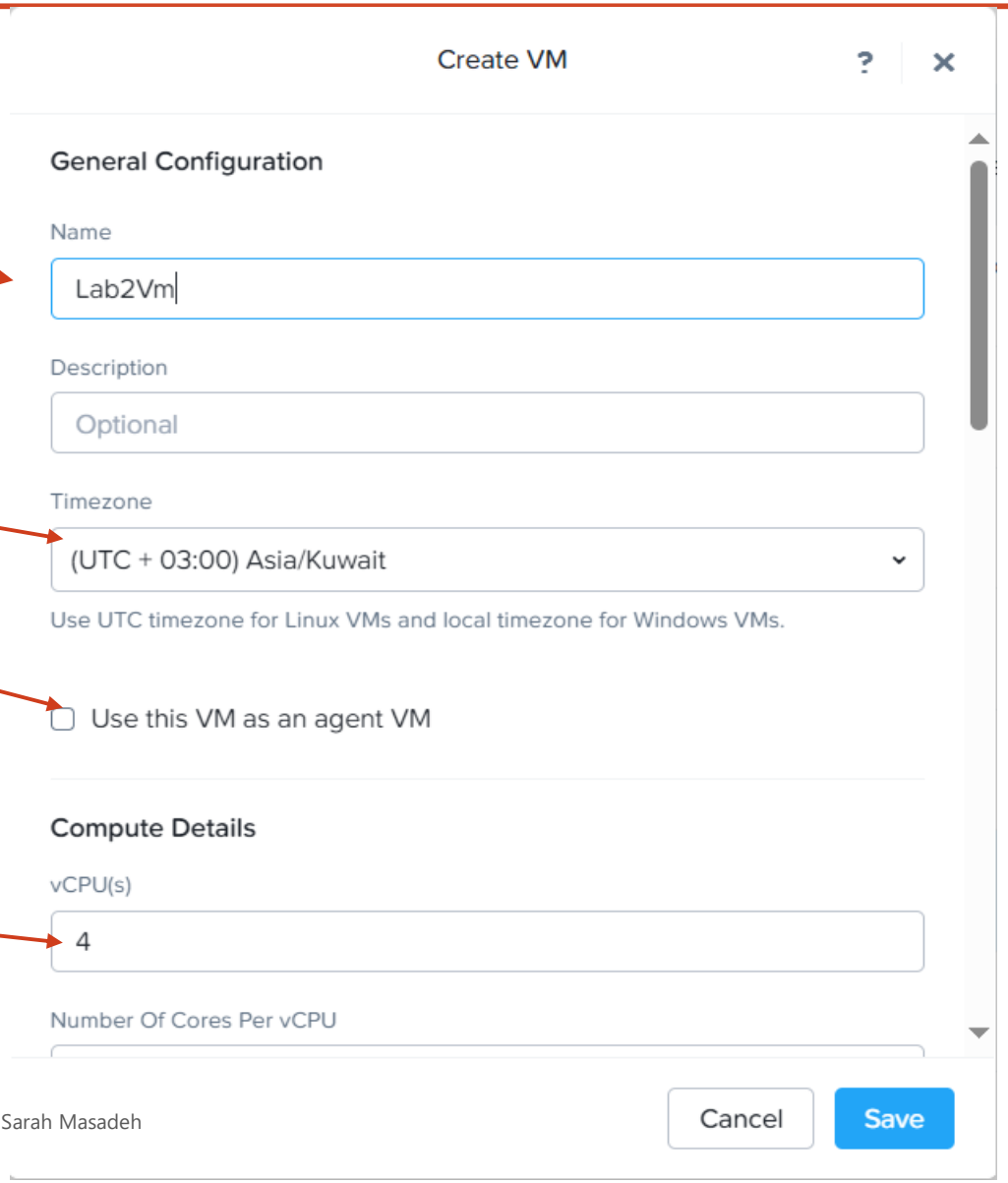
How to create virtual machine

VM Name

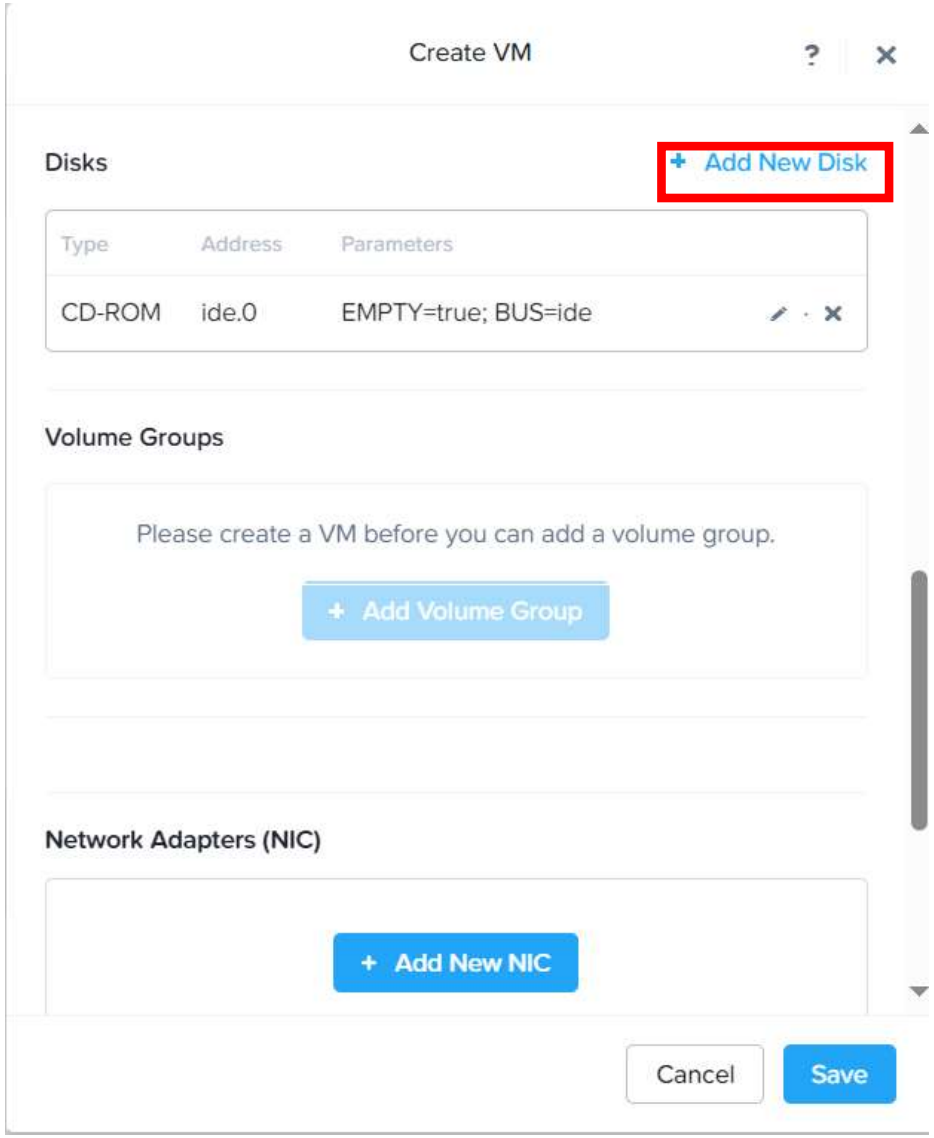
Time Zone should be Kuwait

Check this option if you want to give this VM high priority in loading

Number of virtual CPU

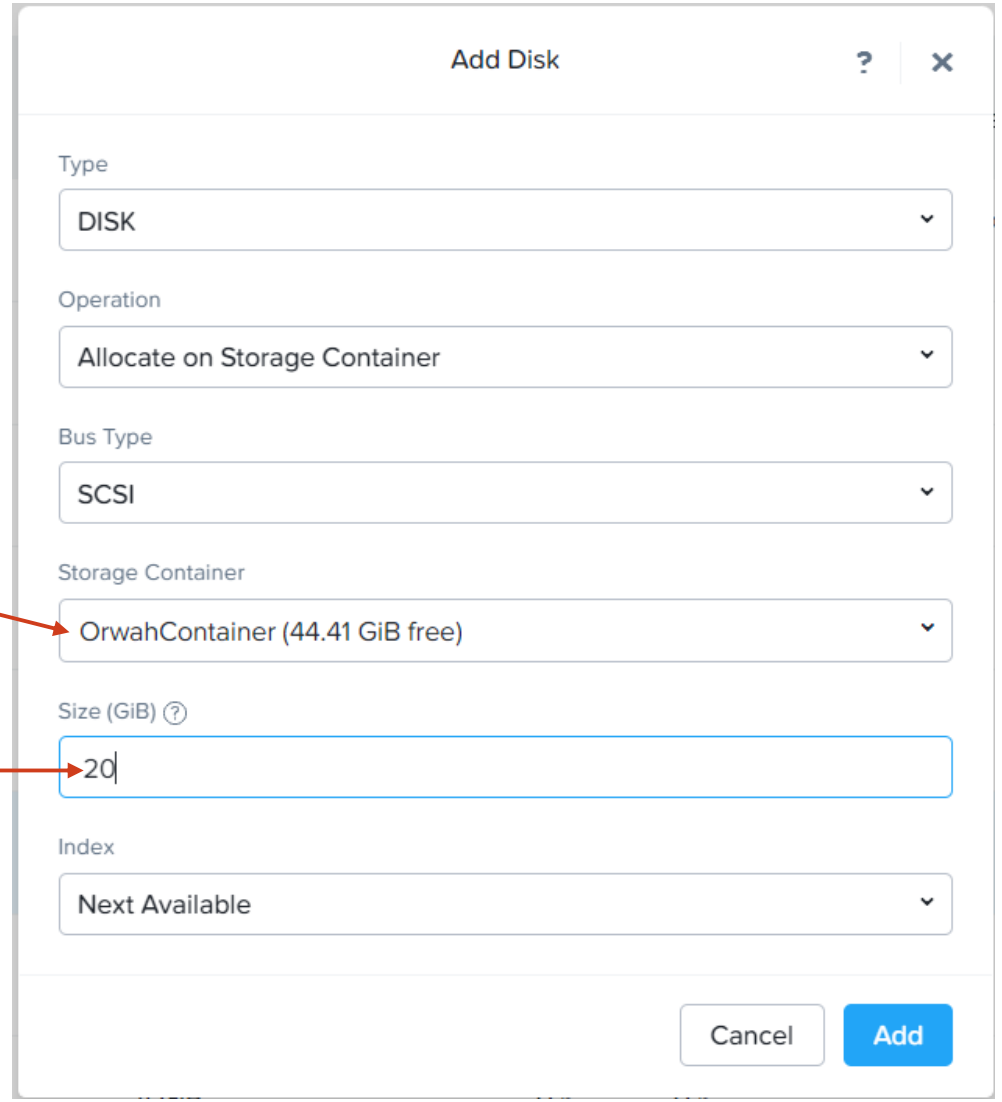


How to create virtual machine

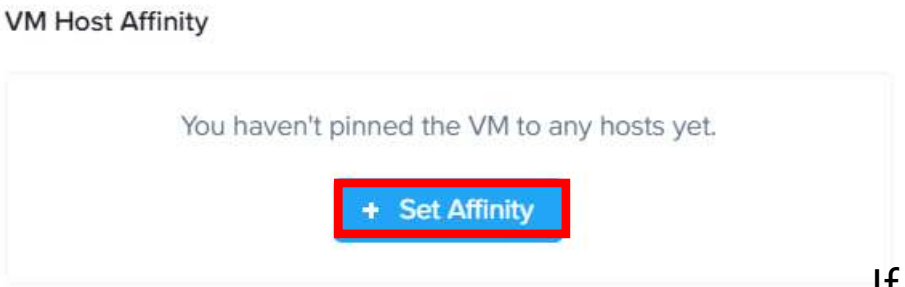


Container we create

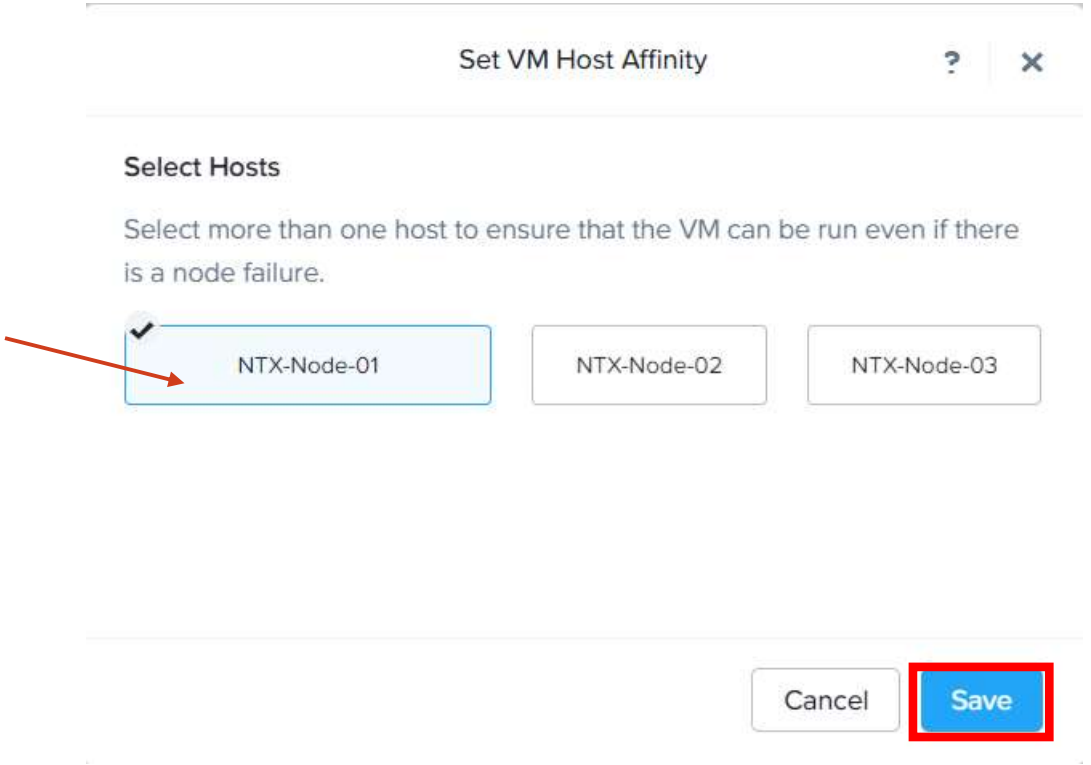
Size of VM should be less than size of container



How to create virtual machine

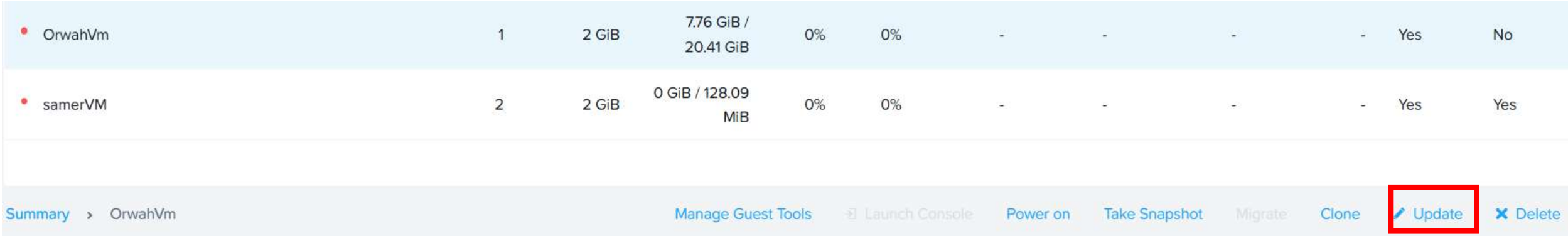


If you want to stick VM on specified host



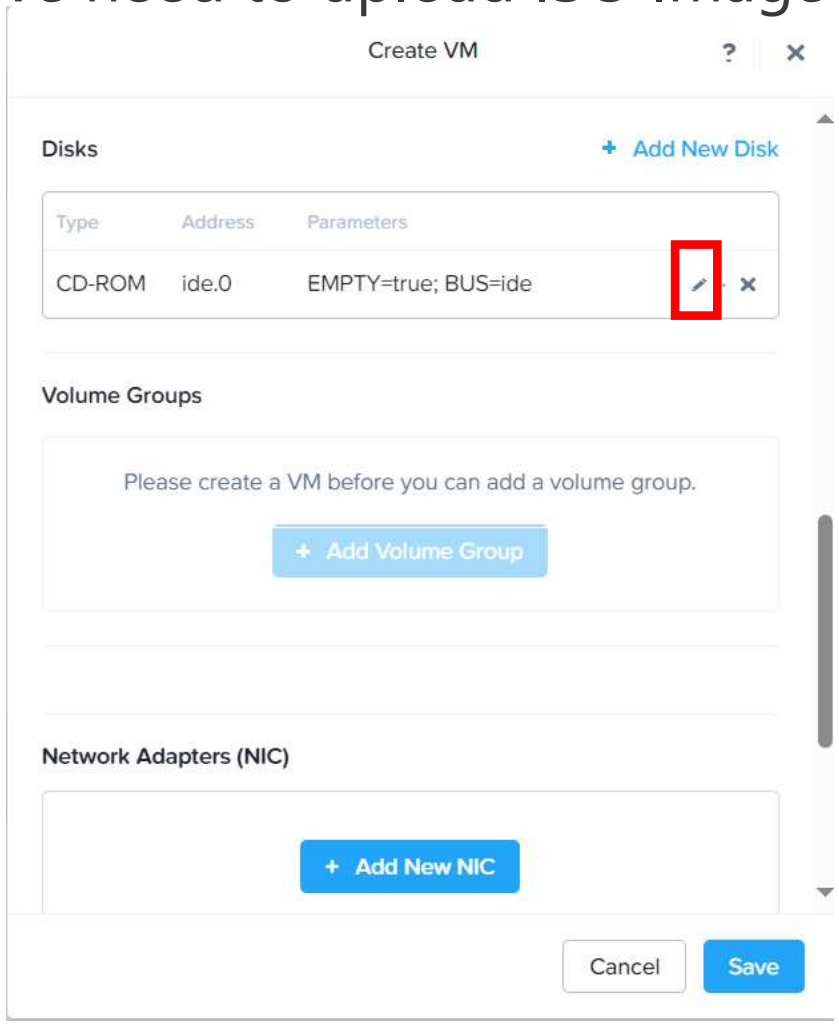
How to create virtual machine

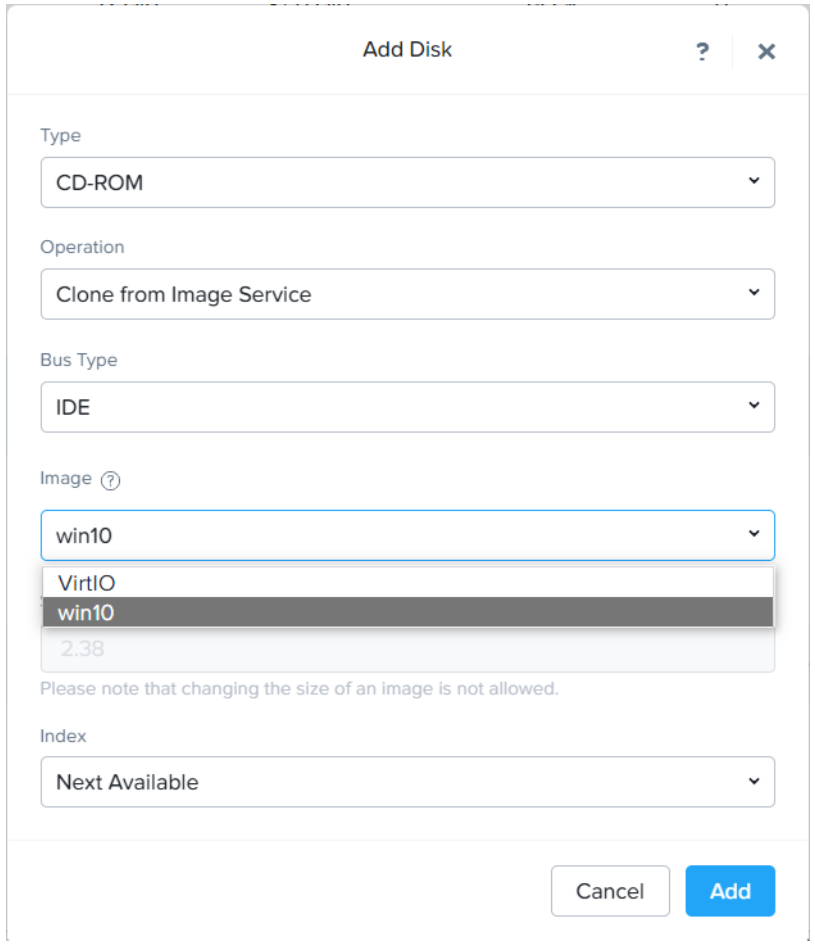
- We need to upload ISO Image to the VM CD-Rom



How to create virtual machine

- We need to upload ISO Image to the VM CD-Rom

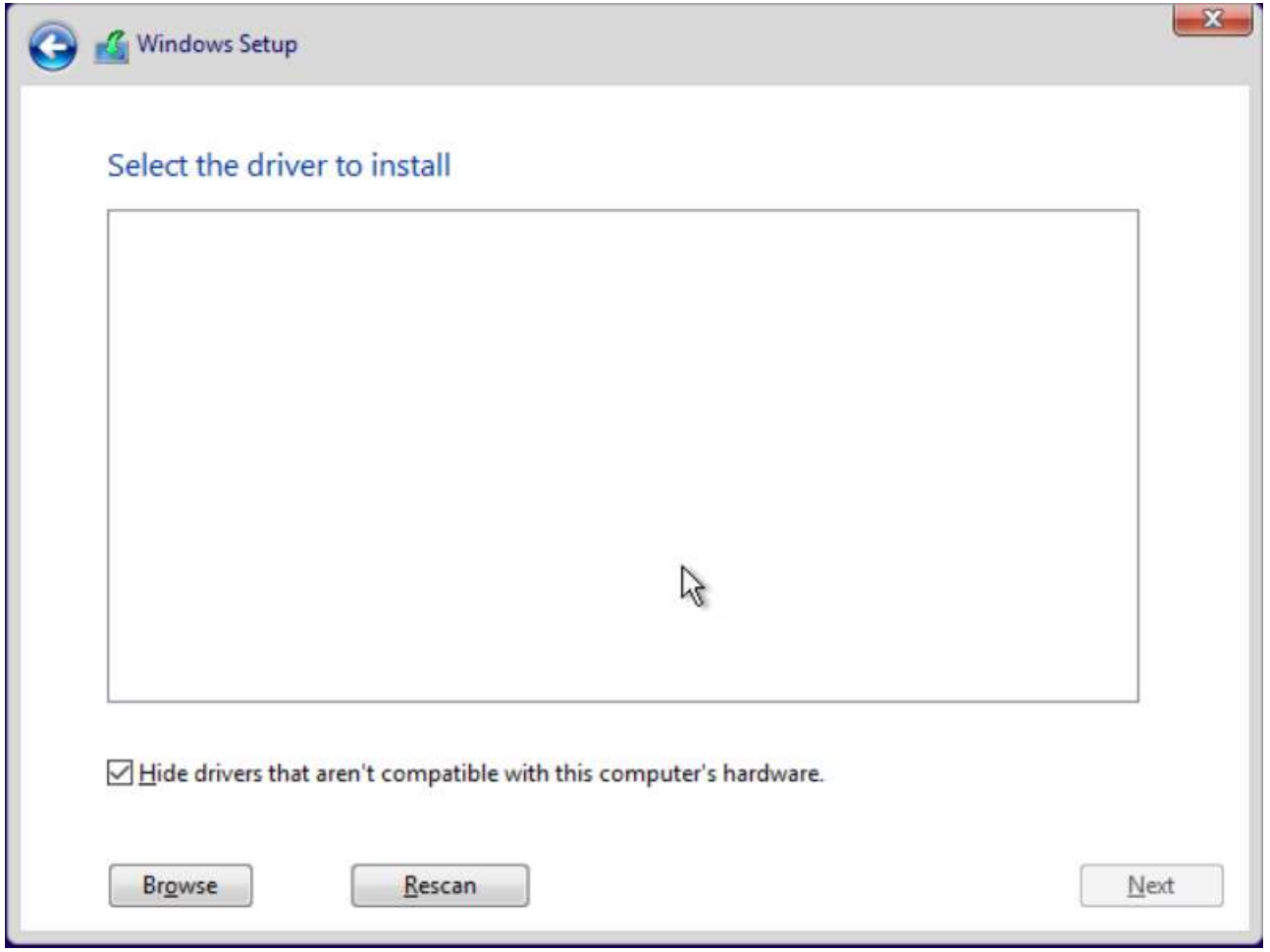




How to create virtual machine

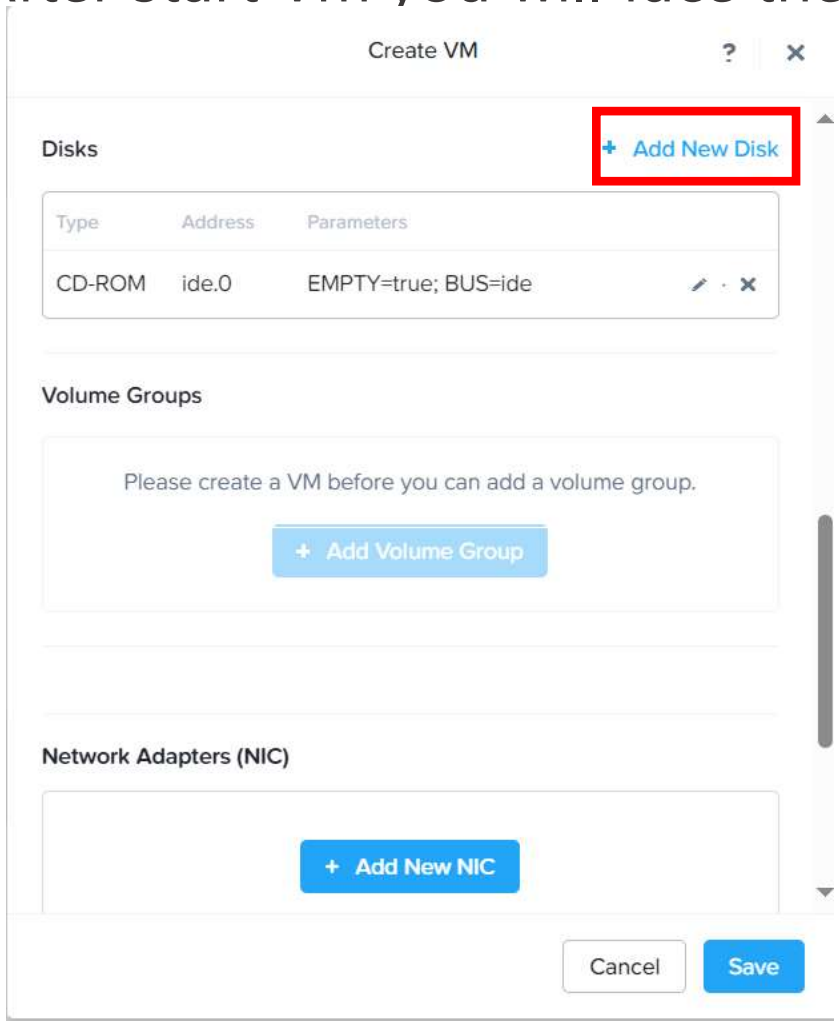
- after start Vm you will face the following screen.

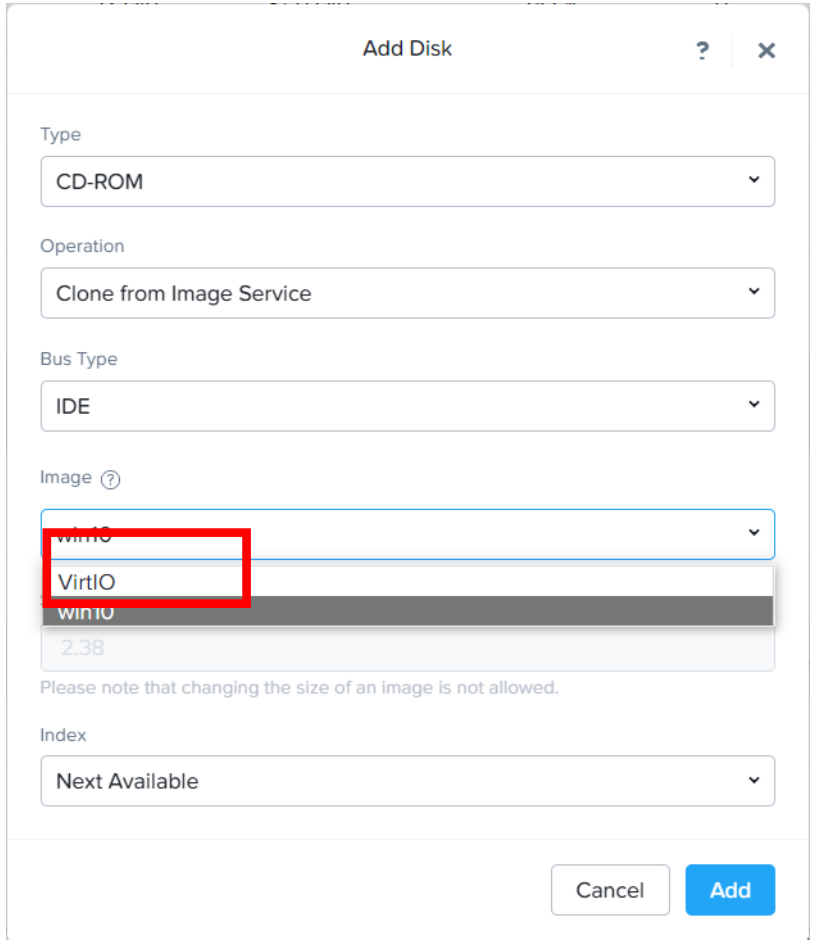
- To create a disk in Vm first you should turn off the vm the go to update , on add disk you should add new CD-Rom and clone it to Virtio then restart Vm and lunch it in console.



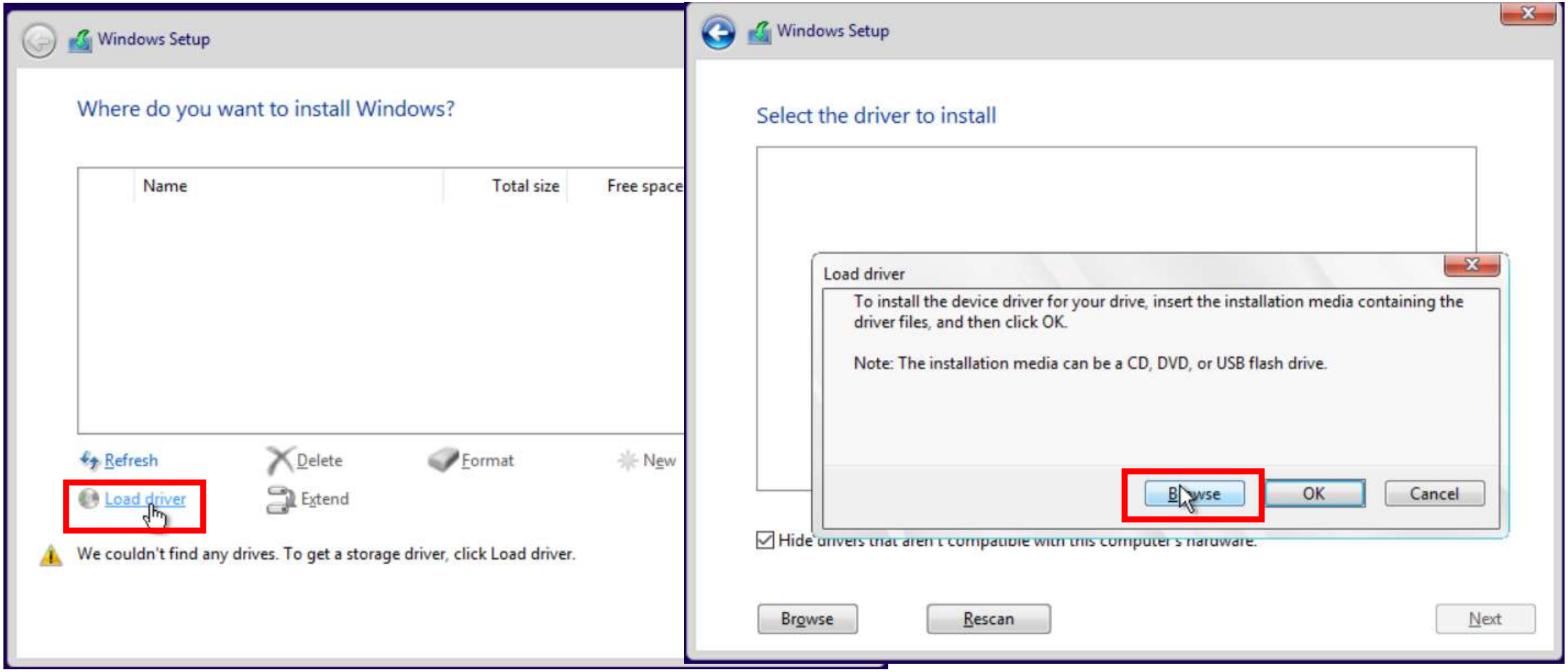
How to create virtual machine

- After start Vm you will face the following screen.

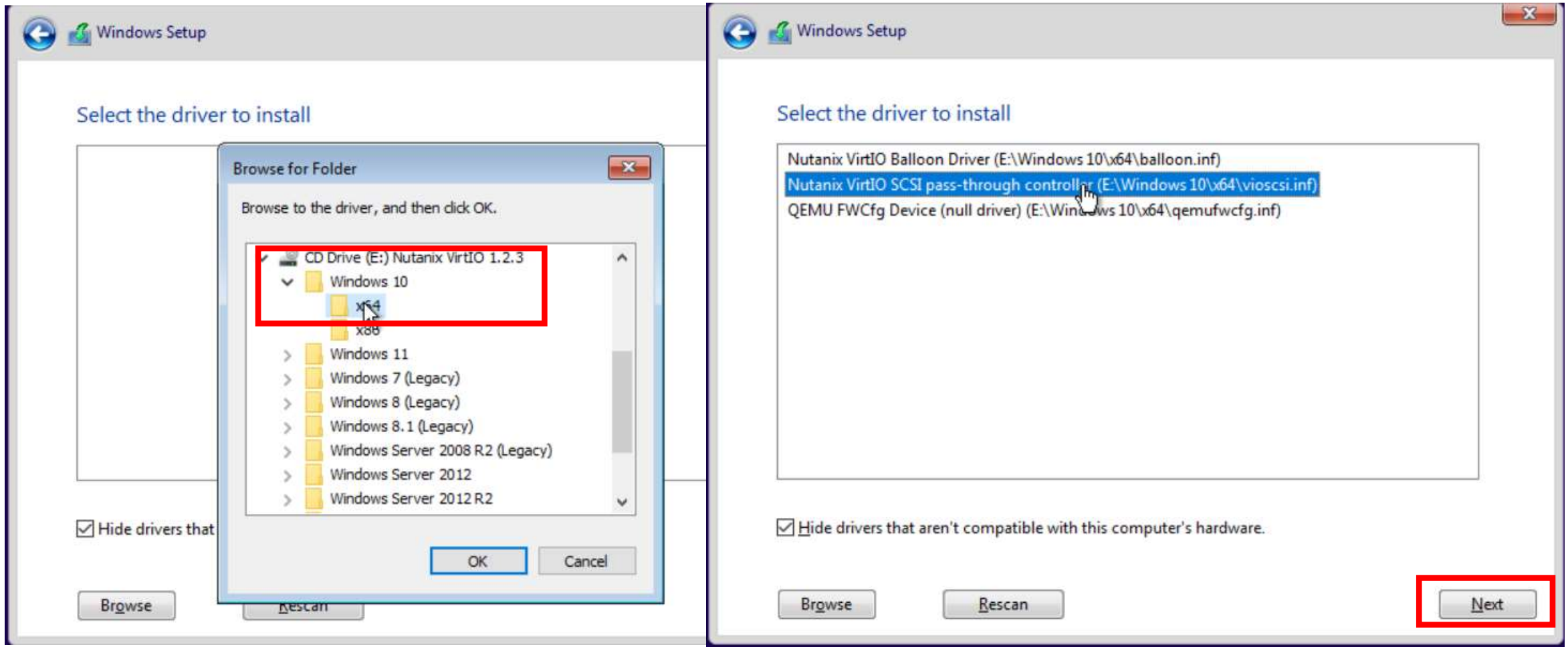




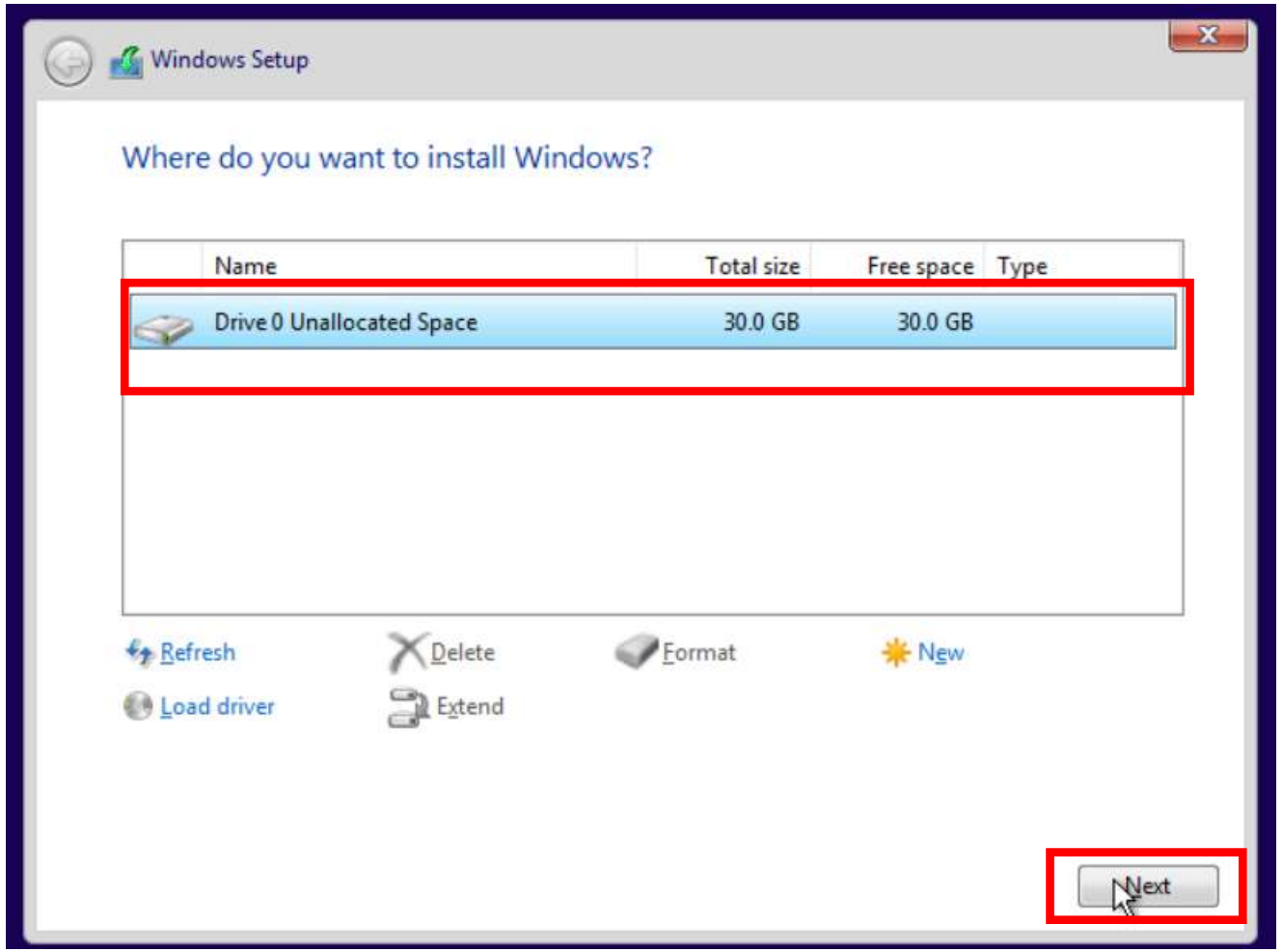
How to create virtual machine



How to create virtual machine

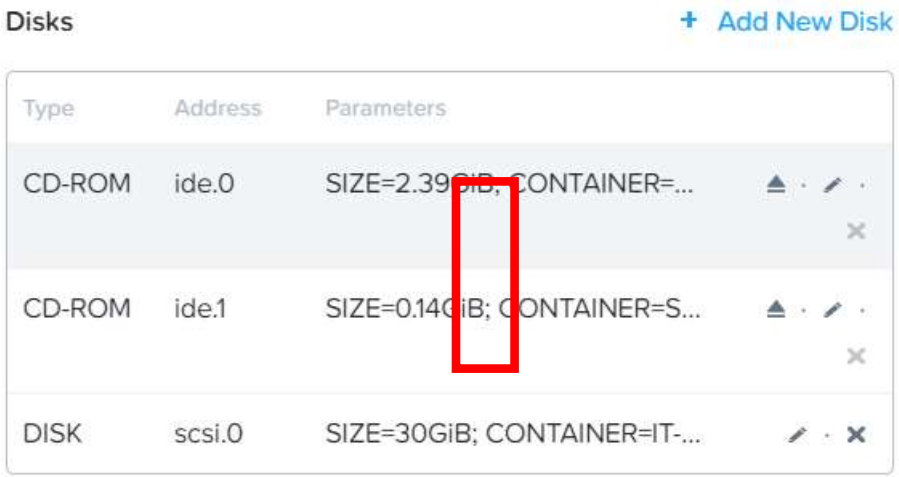


How to create virtual machine



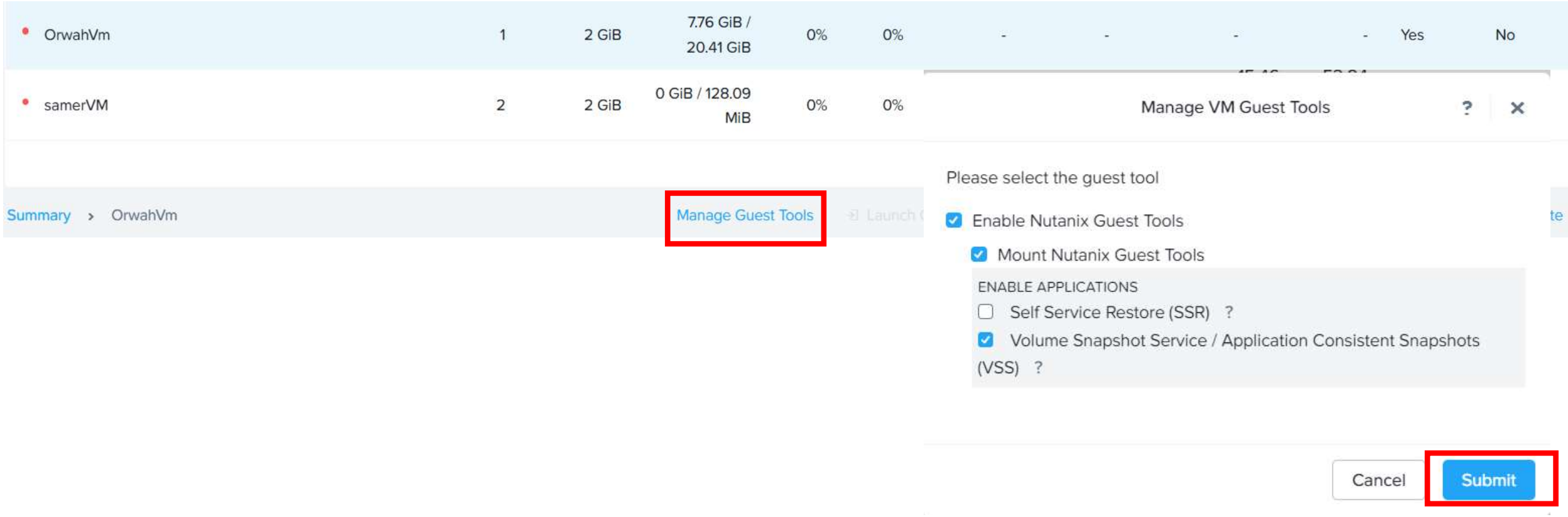
How to create virtual machine

- After setup finish eject CD-Rom



How to create virtual machine

- to enable NIC card in VM click on manage Guest Tools



How to create virtual machine

- Now go to VM and setup Nutanix Tools