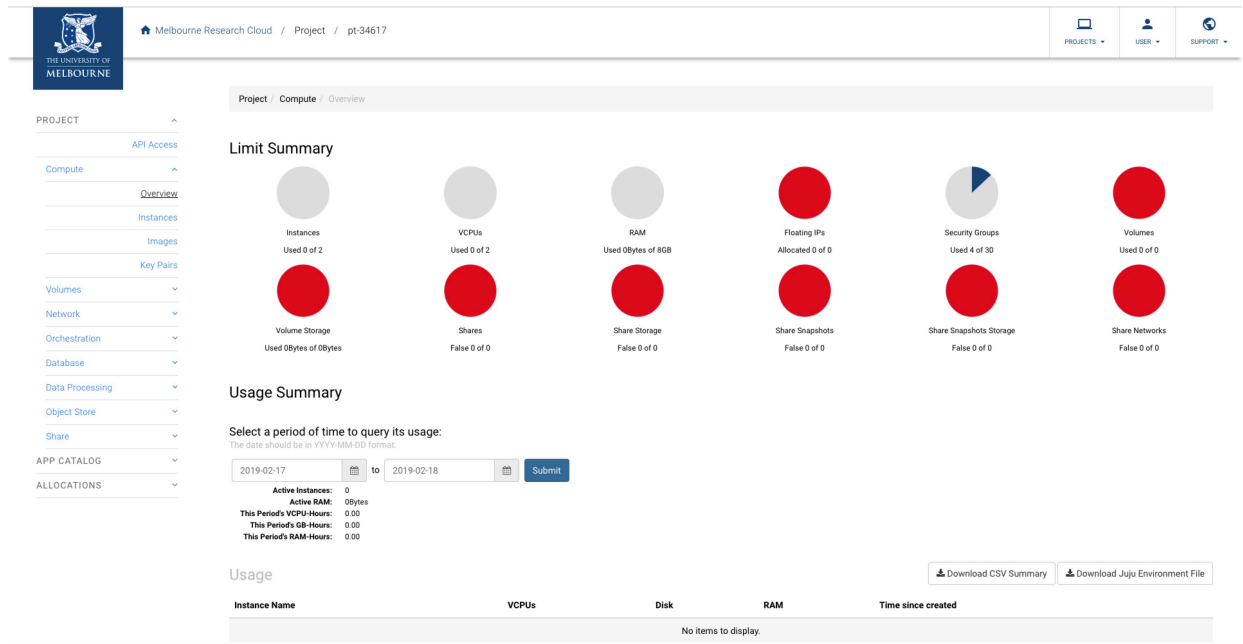


Volume Management in NeCTAR

- 1- Login to the NeCTAR dashboard (refer to the tutorial demonstrating NeCTAR login procedure)



The screenshot shows the NeCTAR dashboard for project 'pt-34617'. The left sidebar contains navigation links for PROJECT, Compute, Overview, Instances, Images, Key Pairs, Volumes, Network, Orchestration, Database, Data Processing, Object Store, Share, APP CATALOG, and ALLOCATIONS. The main content area displays the 'Limit Summary' and 'Usage Summary' sections.

Limit Summary

Resource	Used	Limit
Instances	Used 0 of 2	2
VCPUs	Used 0 of 2	2
RAM	Used 0 Bytes of 8GB	8GB
Floating IPs	Allocated 0 of 0	0
Security Groups	Used 4 of 30	30
Volumes	Used 0 of 0	0
Volume Storage	Used 0 Bytes of 0 Bytes	0 Bytes
Shares	False 0 of 0	0
Share Storage	False 0 of 0	0
Share Snapshots	False 0 of 0	0
Share Snapshots Storage	False 0 of 0	0
Share Networks	False 0 of 0	0

Usage Summary

Select a period of time to query its usage:
The date should be in YYYY-MM-DD format.

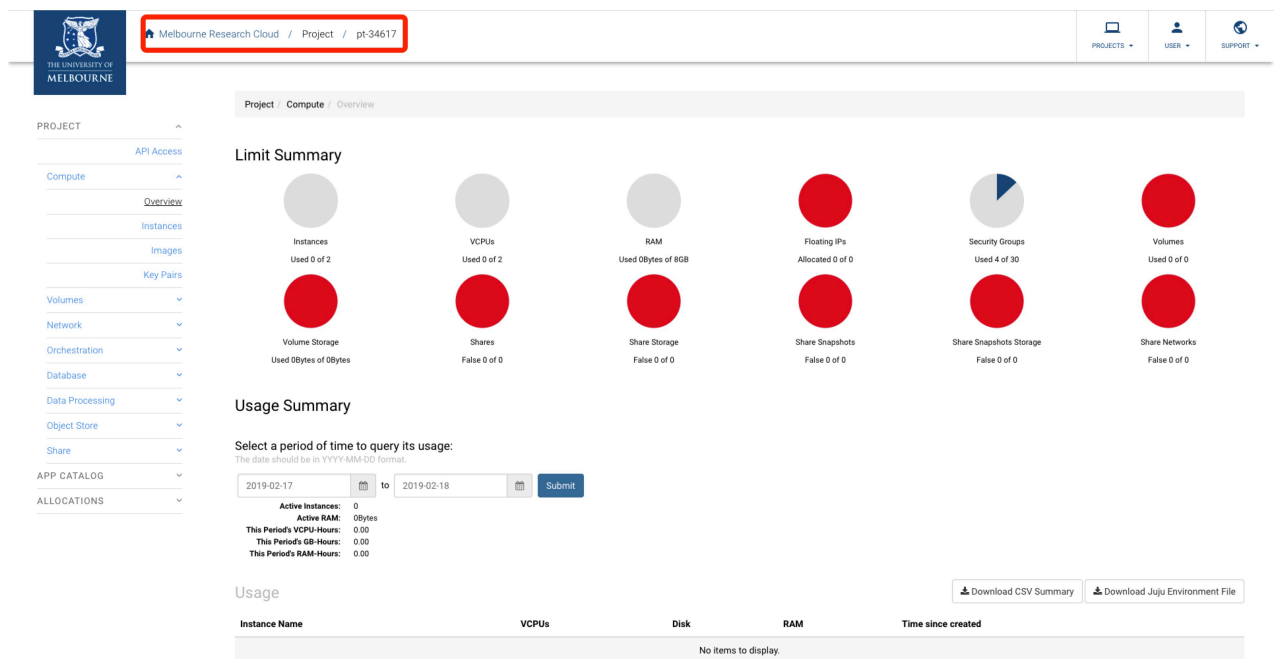
2019-02-17 to 2019-02-18 [Submit]

Active Instances:	0
Active RAM:	0 Bytes
This Period's VCPU-Hours:	0.00
This Period's GB-Hours:	0.00
This Period's RAM-Hours:	0.00

Usage

Instance Name	VCPUs	Disk	RAM	Time since created
No items to display.				

- 2- Select your desired project (note that virtual machines created in a project cannot be shared and seen in another project)



The screenshot shows the NeCTAR dashboard for project 'pt-34617'. The left sidebar contains navigation links for PROJECT, Compute, Overview, Instances, Images, Key Pairs, Volumes, Network, Orchestration, Database, Data Processing, Object Store, Share, APP CATALOG, and ALLOCATIONS. The main content area displays the 'Limit Summary' and 'Usage Summary' sections.

Limit Summary

Resource	Used	Limit
Instances	Used 0 of 2	2
VCPUs	Used 0 of 2	2
RAM	Used 0 Bytes of 8GB	8GB
Floating IPs	Allocated 0 of 0	0
Security Groups	Used 4 of 30	30
Volumes	Used 0 of 0	0
Volume Storage	Used 0 Bytes of 0 Bytes	0 Bytes
Shares	False 0 of 0	0
Share Storage	False 0 of 0	0
Share Snapshots	False 0 of 0	0
Share Snapshots Storage	False 0 of 0	0
Share Networks	False 0 of 0	0

Usage Summary

Select a period of time to query its usage:
The date should be in YYYY-MM-DD format.

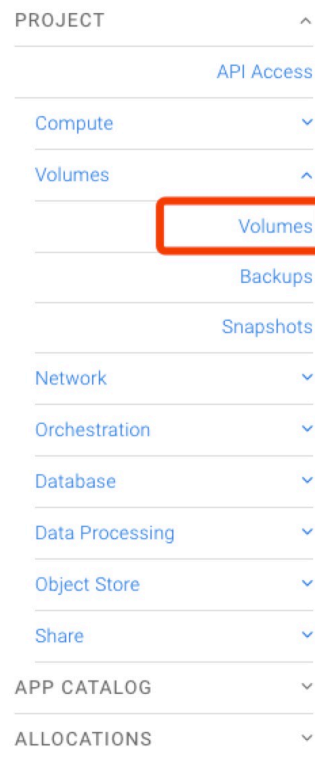
2019-02-17 to 2019-02-18 [Submit]

Active Instances:	0
Active RAM:	0 Bytes
This Period's VCPU-Hours:	0.00
This Period's GB-Hours:	0.00
This Period's RAM-Hours:	0.00

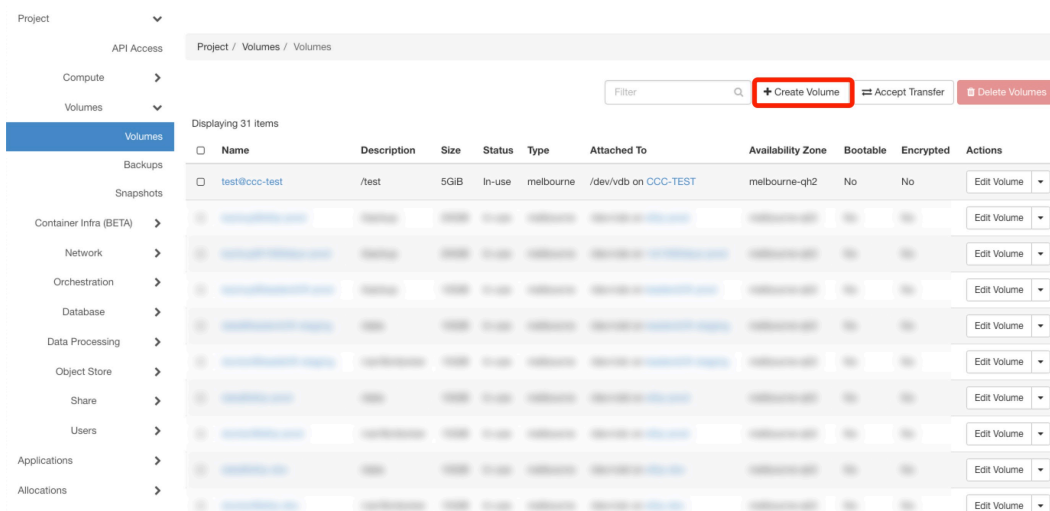
Usage

Instance Name	VCPUs	Disk	RAM	Time since created
No items to display.				

- 3- Select "Volumes" from the left sidebar.



- 4 A volume is a non-ephemeral storage option provided by NeCTAR and can be attached/detached to any instance at any time. All previously created volumes will be listed and if you have created any volume snapshots, you can see them by visiting the “Volume Snapshots” tab. To create a new volume, simply click the “Create Volume” button.



- 5 In the new dialogue box, first choose a name and then specify your desired size for the new volume. Next step is selecting volume creation source, which includes

creating an empty volume, using a volume snapshot, or using an image file to create the volume. Finally, select your favorite availability zone. Best practice is to create volumes near the instances that they will be attached to.

Create Volume ✕

Volume Name

Description

Volume Source

No source, empty volume 2

Size (GiB) *

1 3

Availability Zone

Any Availability Zone 4

Description:

Volumes are block devices that can be attached to instances.

Volume Type Description:

Volume Limits

Total Gibibytes 380 of 5,120 GiB Used

Number of Volumes 31 of 5,120 Used

Cancel

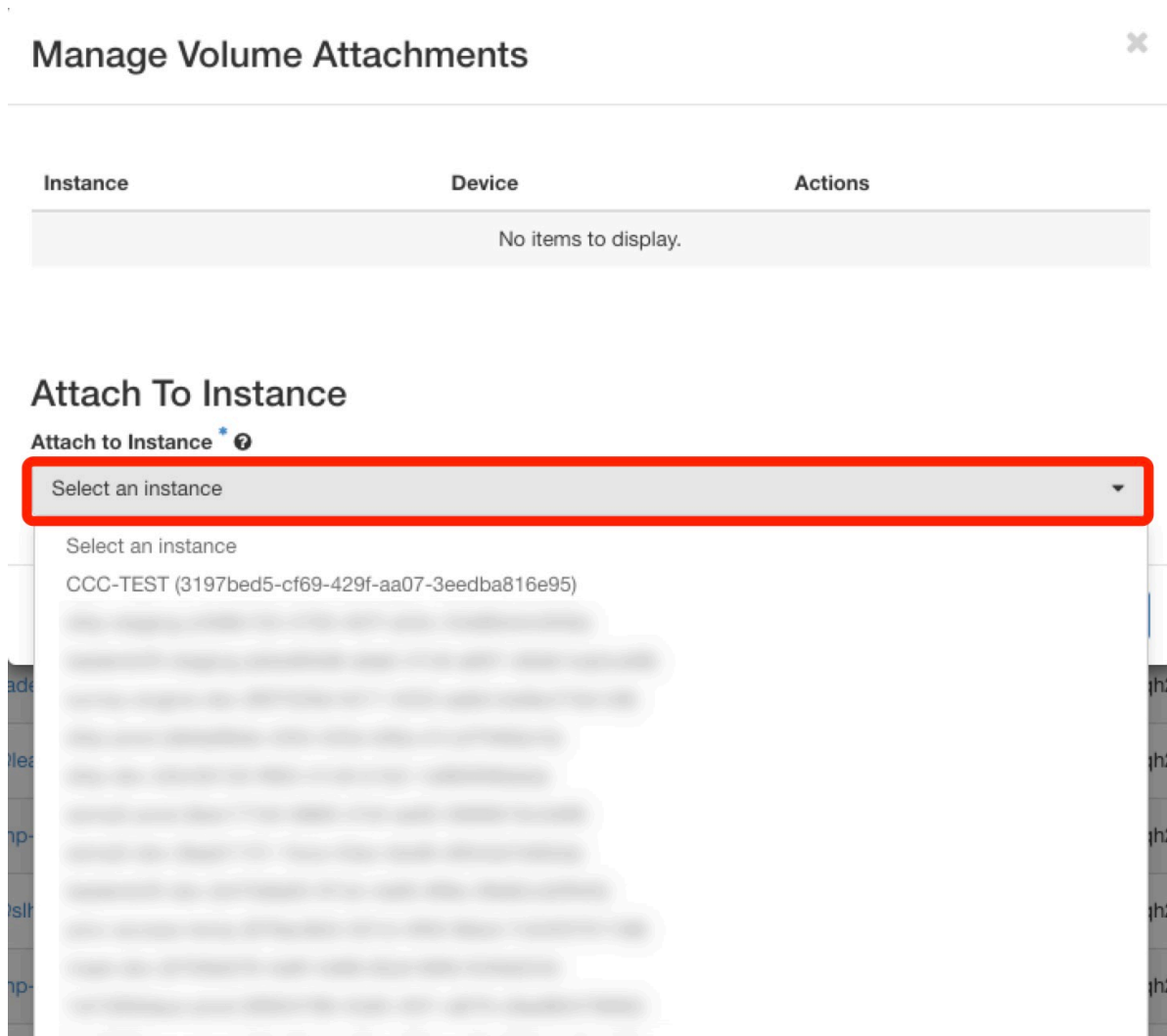
Create Volume

- 6- When a new volume is created, it should be attached to an instance to be available and usable. To do so, at the screen shown in step 4 and next to the volume you want to attach, click the little downwards arrow button and then select “Manage Attachments”.

Displaying 31 items

<input type="checkbox"/>	Name	Description	Size	Status	Type	Attached To	Availability Zone	Bootable	Encrypted	Actions
<input type="checkbox"/>	test@ccc-test	/test	5GiB	In-use	melbourne	/dev/vdb on CCC-TEST	melbourne-qh2	No	No	<div>Edit Volume</div> <div>Manage Attachments</div> <div>Create Snapshot</div> <div>Create Backup</div> <div>Upload to Image</div> <div>Update Metadata</div>
<input type="checkbox"/>								No	No	
<input type="checkbox"/>								No	No	
<input type="checkbox"/>								No	No	

- 7- In the opened dialog box, select the name of target instance from the “Attach to Instance” drop-down list.



- 8- At this stage, the new volume has been created and attached to an instance, thus it is registered as a virtual device in the instance’s device list (/dev/vdc). To actually use and access it, the volume should be first formatted and then mounted. For this purpose, first create an SSH session to the instance (refer to NeCTAR virtual machine access tutorial), then enter the following command in your SSH command shell to format the volume: **sudo mkfs.ext4 /dev/vdc**
Note that if you are creating a volume from an image or snapshot, issuing the above command will erase all the data in that volume.
- 9- Final step is mounting the volume. We suggest mounting the new volume to /mnt, but you can mount it to any desired path. Enter the following command in the SSH command shell to finalize mounting: **sudo mount /dev/vdc /mnt -t auto**
- 10- If you want to detach a volume from an instance and attach it to another instance, first you need to enter the following command in the SSH command shell to unmount the volume: **sudo umount /mnt**
Note that in the above command, if you have used another path for mounting the volume, you have to substitute /mnt with your path.

11- After unmounting the volume, you can detach it from the instance by selecting

“Volumes” from the left sidebar and then clicking “Manage Volume Attachments” button next to your desired entry. In the opened dialog box, you can delete the volume from the instance as shown in the picture below:

Manage Volume Attachments



Detach Volumes

Displaying 1 item

<input type="checkbox"/>	Instance	Device	Actions
<input type="checkbox"/>	CCC-TEST	/dev/vdb	Detach Volume

Displaying 1 item

Cancel