



# EUMETSAT - Shared File System (SFS) usage in tenants

 The content of this article only apply to the users of the EUMETSAT part of the EWC.

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## Pre-requisites

 Setting up SFS in a tenancy can be done only by users with **ewcloud-tenant-admin** role!

## Ticket

SFS should be available for tenants created after 28/10/2022, if the tenant is older and you wish to use SFS, please open us a ticket [here](#).

## 1. Create Server Openstack SFS



1.1 From Morpheus go to Infrastructure Storage, select the Servers tab and click +ADD




STORAGE

Buckets File Shares Volumes Data Stores **Servers**

---

STORAGE SERVERS

Search  

TYPE	NAME	SERVICE URL	
 <b>openstack</b>	be-rmib-rss-sfs-server	https://api.waw3-1.cloudferro.com:8786	 

1.2. Fill the following data:

- Select TYPE as **Openstack SFS**
- Add a NAME as **<tenant name>-sfs-server**, e.g., be-rmib-rss-sfs-server
- Select the CLOUD from the list (usually you only have one)

ADD STORAGE SERVER

NAME

DESCRIPTION

☒ ENABLED

TYPE

OpenStack SFS

CLOUD

eumetsat-batchprocessing

SUPPORTED PROTOCOLS

Select

+


SAVE CHANGES

Once saved this will create the storage server.

## 2. Create a File share

Now that you have a storage server for SFS, you can create the File shares,

2.1 From the same page, go to the **File Shares** tab.



Search

Support

Pierre De Buyl

Operations

Provisioning

Library

Infrastructure

Backups

Monitoring

Tools

Administration

Groups

Clouds

Clusters

Compute

Network

Load Balancers

Storage

Trust

STORAGE

Buckets

File Shares

Volumes

Data Stores

Servers

FILE SHARES

Search

+ ADD

NAME	PROVIDER TYPE	SHARE PATH	SOURCE	BACKUP	DEPLOYMENTS
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2.2 Click +ADD button to create a file share and select the Openstack SFS share

## STORAGE

Buckets


File Shares

Volumes

Data Stores

Servers

### FILE SHARES



+ ADD

CIFS (Samba Windows File Sharing)

NFSv3


OpenStack SFS Share

NAME	PROVIDER TYPE	SHARE PATH	SOURCE	B
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### 2.3 Fill the information:

- Give it a NAME, e.g., be-rmib-rss-sfs-test
- Select as STORAGE SERVICE the server you create in the previous step
- Select 'nova' as the AVAILABILITY ZONE
- Select NFS from SHARE PROTOCOL
- Set the SIZE

Then click "Save Changes"

NEW FILE SHARE 

NAME

STORAGE SERVICE

Select

RESOURCE POOL

AVAILABILITY ZONE

SHARE PROTOCOL

Select

SHARE SIZE

0

GB

SHARE TYPE

SHARE NETWORK

☒ ACTIVE

☐ DEFAULT BACKUP TARGET

☐ DEFAULT DEPLOYMENT ARCHIVE TARGET

☐ DEFAULT VIRTUAL IMAGE STORE

Retention


RETENTION POLICY

None

SAVE CHANGES

This will create the Shared Filesystem in the storage backend. Wait until you have the "Share Path:" defined in Morpheus. This will take some time.

File Shares > test


 test

ACTIONS ▾ DELETE

▼ INFO

Name: test	Share Type: OpenStack SFS Share	Share Path: 10.83.81.227:/share_d161509e_2ea9_43f2_a472_b263ede7628f
Default Backup Target: No	Archive Snapshots: Yes	Default Deployment Archive Target: No
Default Virtual Image Store: No	Owner: be-rmib-rss	

Files Access

Search  + ADD

FILE NAME	CONTENT TYPE	SIZE	LAST UPDATED
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Failed to load files from storage provider

### 3. Network configuration required for the VMs that need to access the SFS

Now that you have created the SFS, you can use it in a VM.

In order to do that, when provisioning a VM in Morpheus, you need to select two networks (private + sfs).

CREATE INSTANCE

AUTOMATION REVIEW

Configuration Options

LAYOUT

PLAN   
Cores: 4 Memory: 8 GB

RESOURCE POOL

VOLUMES     +

NETWORKS  DHCP +

AVAILABILITY ZONE

SECURITY GROUP

SERVER GROUP (AFFINITY)

FLOATING IP

► User Config

► Advanced Options

PREVIOUS NEXT

Add private first and then using the **+** button you will be able to add a second network: sfs network. At the end you will see something as below:

NETWORKS  DHCP +

DHCP 

Then continue with normal provisioning.

Once provisioning is finished, ssh into your machine and verify if the SFS network is up:

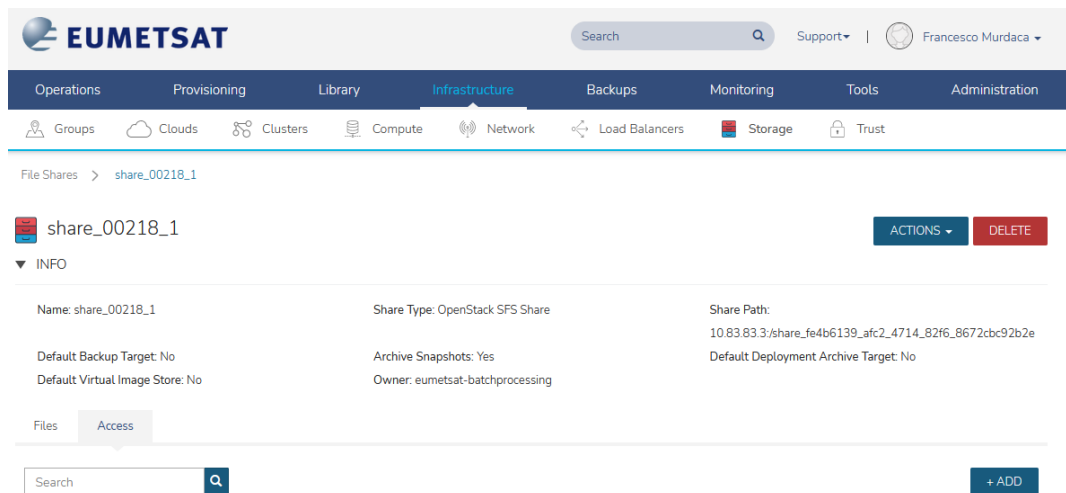
```
ip addr show
```

```
[murdaca@sfs-test-rocky ~]$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 8942 qdisc fq_codel state UP group default qlen 1000
    link/ether fa:16:3e:69:1b:f6 brd ff:ff:ff:ff:ff:ff
    altname enp0s3
    altname ens3
    inet 10.0.0.244/24 brd 10.0.0.255 scope global dynamic noprefixroute eth0
        valid_lft 38927sec preferred_lft 38927sec
    inet6 fe80::f816:3eff:fe69:1bf6/64 scope link
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 8942 qdisc fq_codel state UP group default qlen 1000
    link/ether fa:16:3e:5f:77:37 brd ff:ff:ff:ff:ff:ff
    altname enp0s4
    altname ens4
    inet 10.84.15.144/26 brd 10.84.15.191 scope global dynamic noprefixroute eth1
        valid_lft 38927sec preferred_lft 38927sec
    inet6 fe80::f816:3eff:fe5f:7737/64 scope link
        valid_lft forever preferred_lft forever
```

## 4. Adding permissions to use the Shared Filesystem

Once the Shared Filesystem is created, you need to add access rules to allow read-only or read/write operations to one machine or multiple machines.

4.1 Go to **Infrastructure > Storage > File Shares**, and click on the "Access" tab, then click the "+ ADD" button ...



The screenshot shows the EUMETSAT web interface. The top navigation bar includes 'Operations', 'Provisioning', 'Library', 'Infrastructure' (selected), 'Backups', 'Monitoring', 'Tools', and 'Administration'. Below this, there is a sub-navigation bar with 'Groups', 'Clouds', 'Clusters', 'Compute', 'Network', 'Load Balancers', 'Storage' (selected), and 'Trust'. The main content area shows 'File Shares > share\_00218\_1'. A table lists the share details, and below it, the 'Access' tab is active, showing a search bar and a '+ ADD' button.

share_00218_1		
Name: share_00218_1	Share Type: OpenStack SFS Share	Share Path: 10.83.83.3/share_fe4b6139_afc2_4714_82f6_8672cbc92b2e
Default Backup Target: No	Archive Snapshots: Yes	Default Deployment Archive Target: No
Default Virtual Image Store: No	Owner: eumetsat-batchprocessing	

Files | Access

Search [ ] + ADD

4.2 Now you can fill the required information:

- NAME: e.g. give a meaningful name
- ROUTER: sfs router
- AUTHORIZATION TYPE: IP
- PERMISSION: Read Only or Read/Write access

- ACCESS CONSTRAINT: Access IP of the local machine on the shared file system network (e.g. **10.84.??.??/32**) or the range of IPs for all machines on the SFS network (10.84.??.0/24). In order to get the IP of your VM on the SFS network. Go to Provisioning > Instances > find your VM and click on it. Then go to network section as described below:

You will be able to see your private network and sfs network IPs:

Summary	Storage	Network	Logs	Backups	Environment	Scale	History	Console
---------	---------	---------	------	---------	-------------	-------	---------	---------

2	0.0MiB/s	0.0MiB/s	616.0B/s	496.8B/s	163.0B/s	52.1B/s
INTERFACES	PEAK BANDWIDTH	AVG BANDWIDTH	PEAK RX	AVG RX	PEAK TX	AVG TX

▼

NETWORK INTERFACE: SFSTEST-CENTOS-7.9-EUMETSAT-GPU

PRIMARY	IP ADDRESS	MAC ADDRESS	LABEL	TYPE	NETWORK	DHCP	
✓	10.0.0.127		eth0		private	✓	
	10.84.15.164		eth2		sfs_00215_1 - sfs_00215_1	✓	

## 5. Mount file share to VM

Now that everything is configured and permissions have been given for access, you can login into your machine and mount the shared filesystem in a VM using the following commands:

```
sudo mkdir /sfs-test # create the directory to mount the filesystem
sudo mount <PUT_YOUR_SFS_URL_HERE> /sfs-test
```

Example:

```
sudo mkdir /sfs-test # create the directory to mount the filesystem
sudo mount 10.83.81.227:/share_d161509e_2ea9_43f2_a472_b263ede7628f /sfs-test
```

This is good for a once-off test, but the mount won't be there after a reboot. To make it persistent, which you almost certainly want to do, edit the mounts table (e.g. `sudo nano /etc/fstab`) and add a line like the following:

```
10.83.81.227:/share_d161509e_2ea9_43f2_a472_b263ede7628f /sfs-test nfs defaults,rw 0 0
```

To test this, unmount the share with `sudo umount /sfs-test` and then run `sudo mount -a`. This should cause the share to mount again if you have everything correct, otherwise you'll see an error message. If it worked, it's then safe to reboot the machine to test mounting on boot up. If it didn't work, don't reboot until you've fixed it or commented out the entry as it may prevent a proper boot up and you'd have to look at the VM console in Morpheus to correct the problem.