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.

Pre-requisites

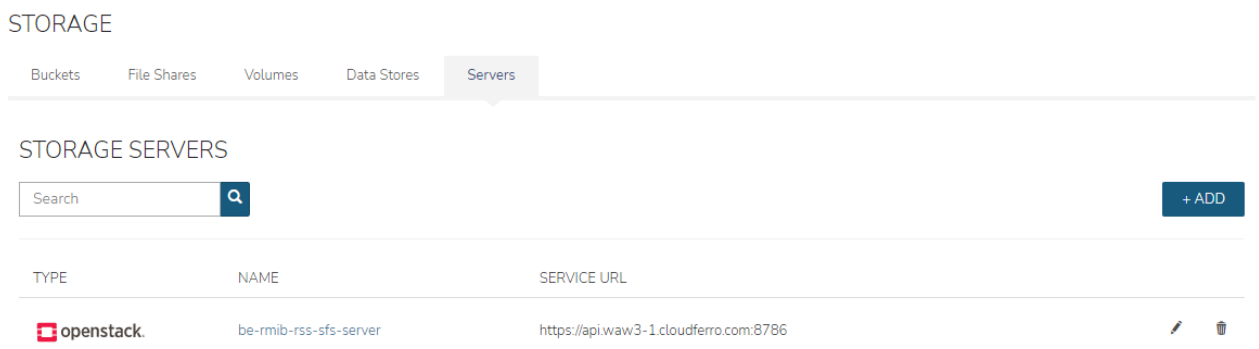
Setting up SFS in a tenancy can be done only by users with **ewcloud-tenant-admin** role!

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.

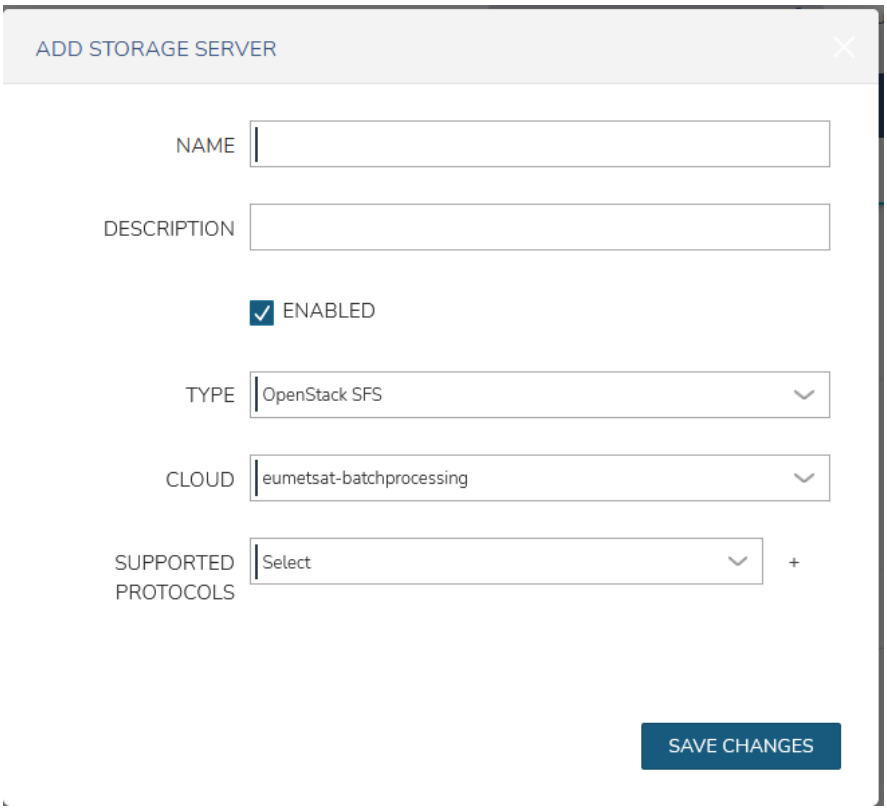
1. Create Server Openstack SFS

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



1.2. Fill the following data:

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

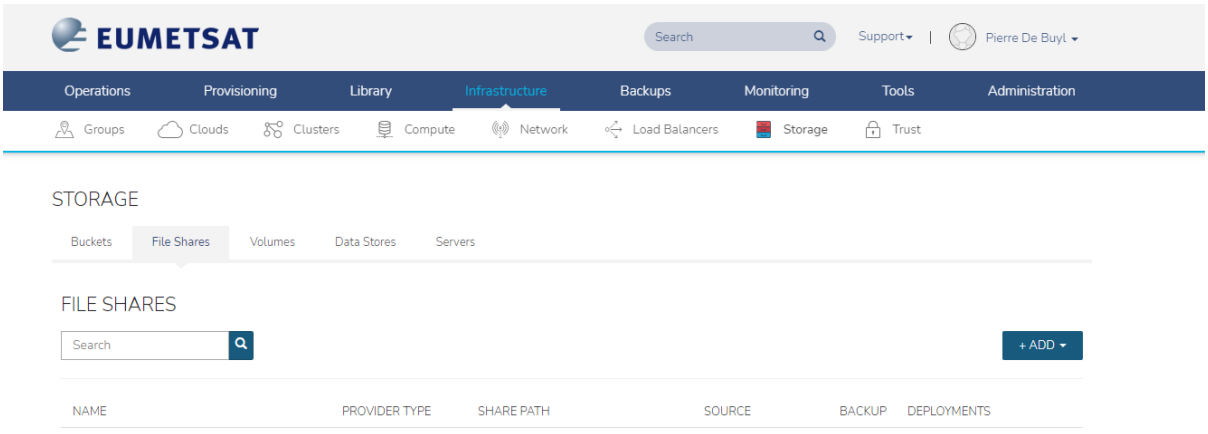


Once saved this will create the storage server.

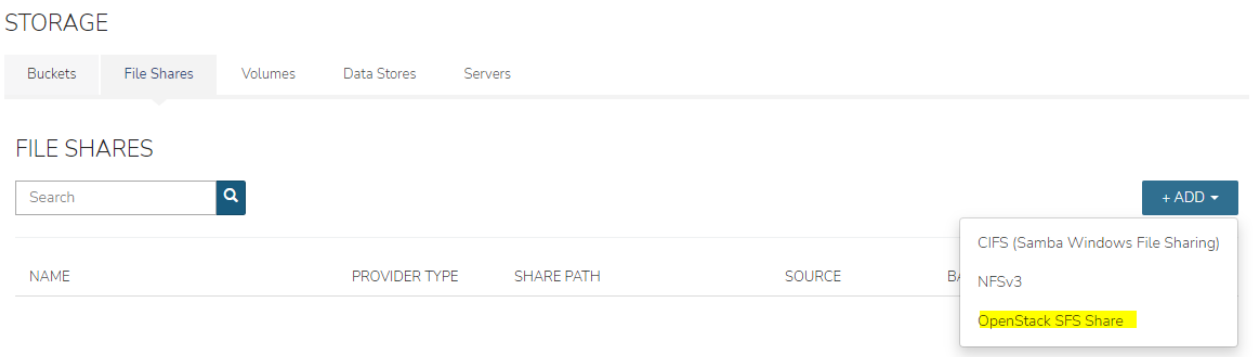
2. Create a File share

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**.



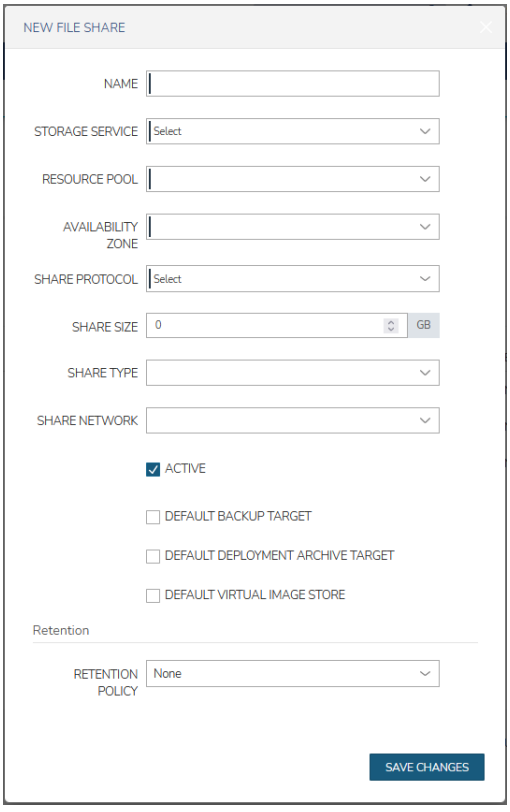
2.2 Click +ADD button to create a file share and select the Openstack SFS share



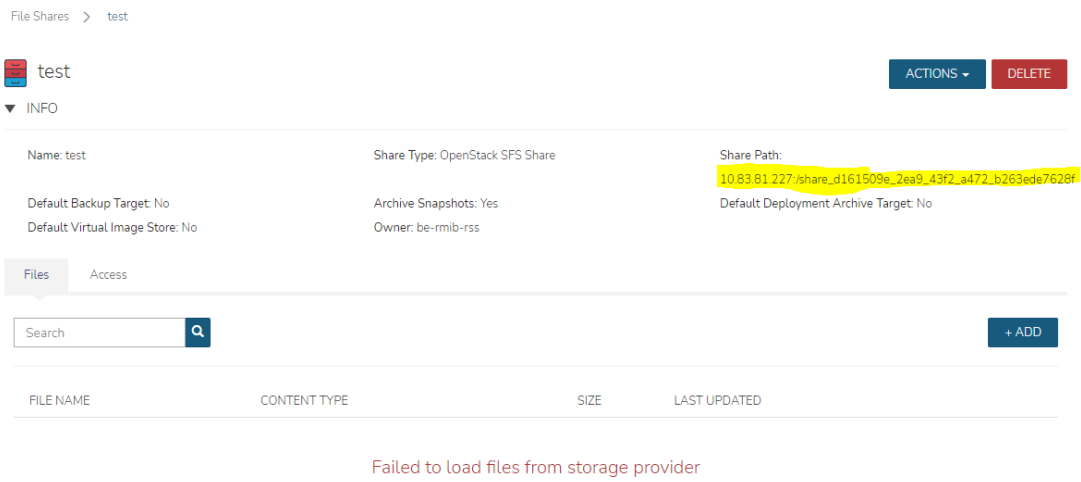
2.3 Fill the information:

- 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"



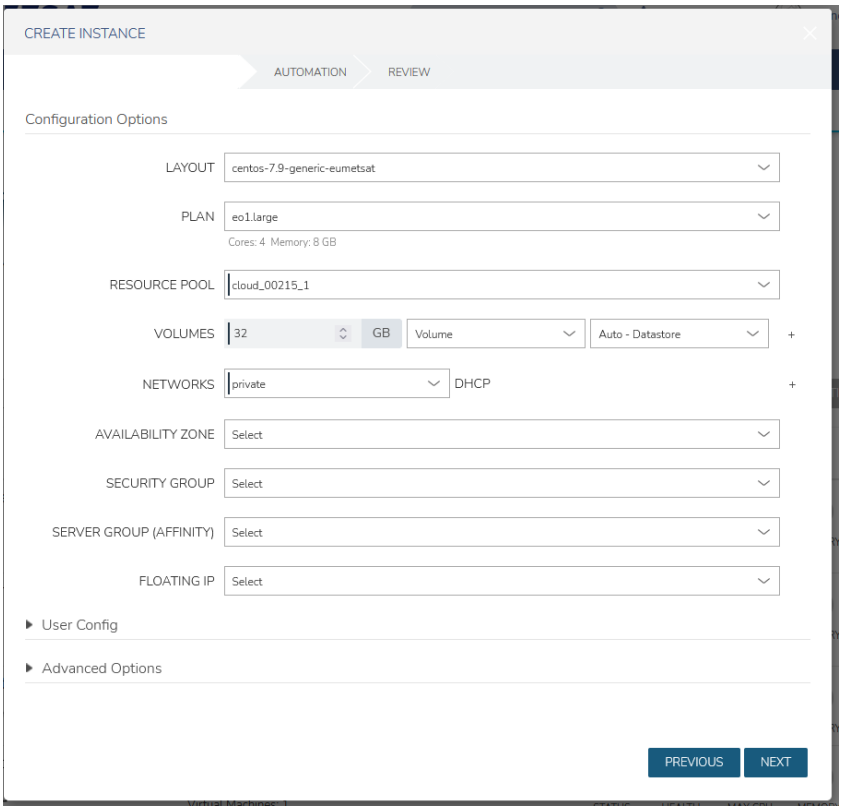
This will create the Shared Filesystem in the storage backend. Wait until you have the "Share Path:" defined in Morpheus. This will take some time.



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).



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:

Then continue with normal provisioning.

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

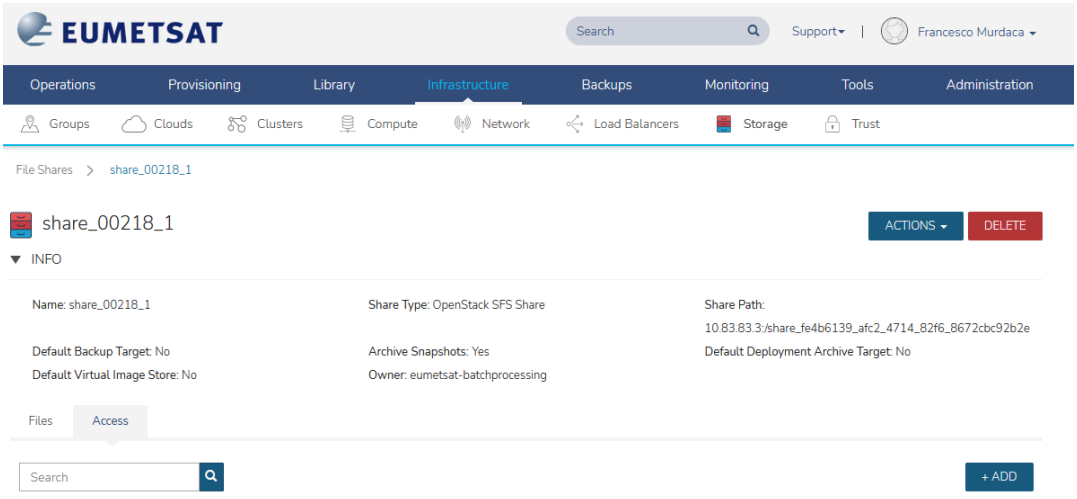
```
ip addr show
```

```
[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
```

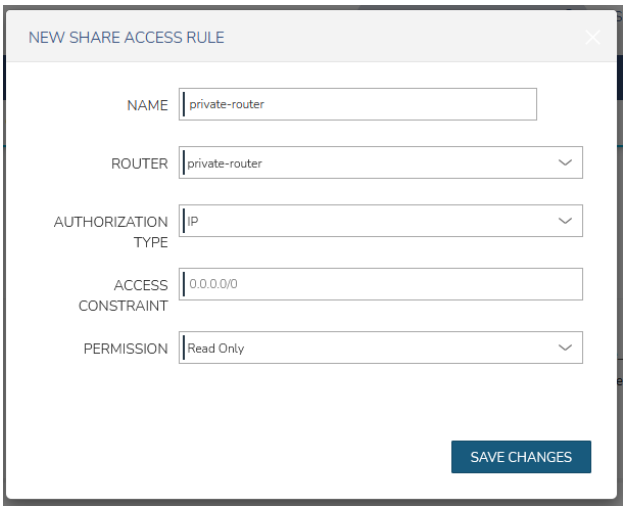
4. Adding permissions to use the Shared Filesystem

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 ...

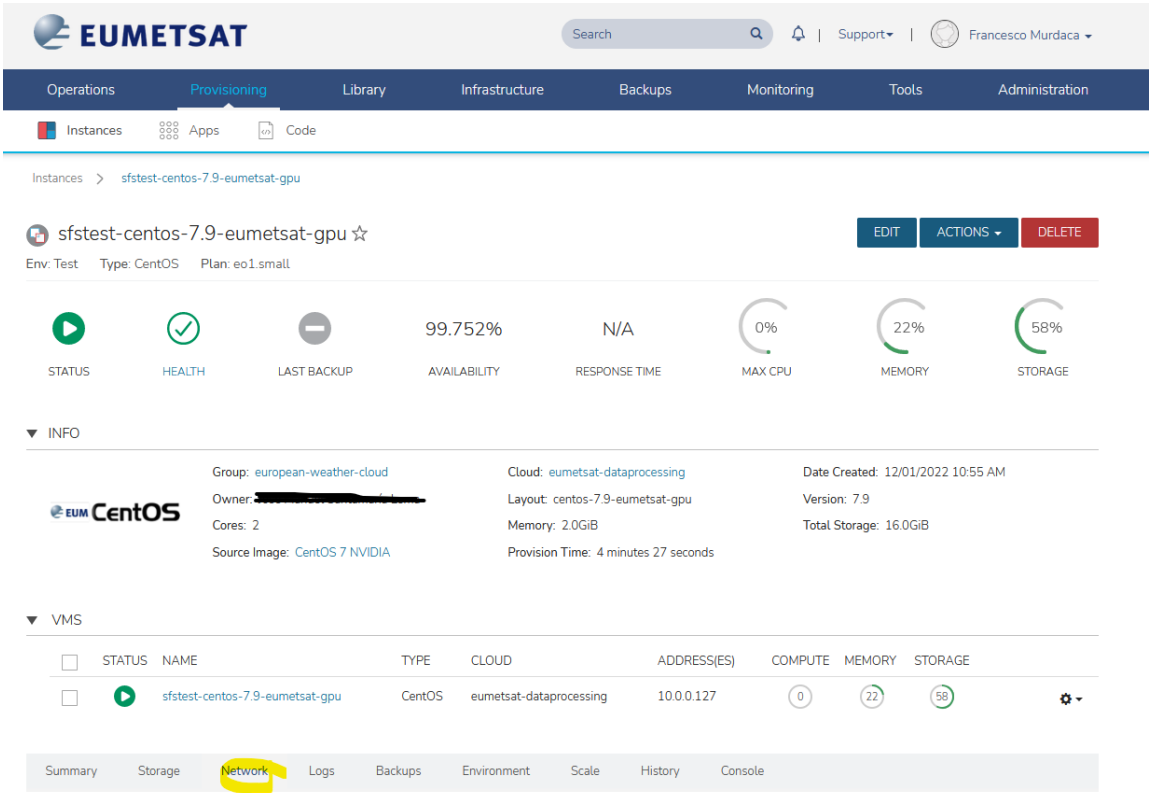


4.2 Now you can fill the required information:

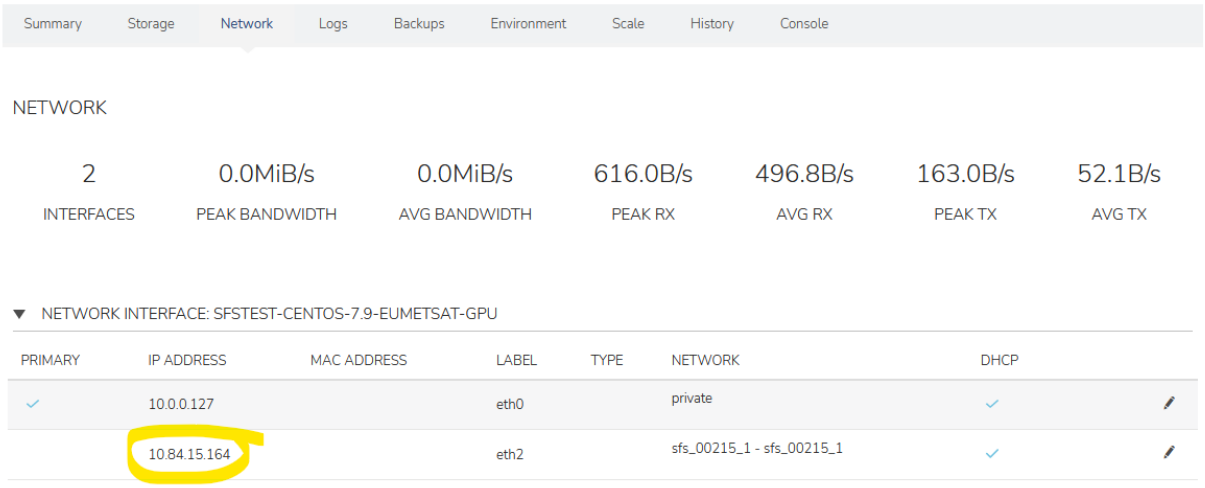


- NAME: e.g. give a meaningful name
- ROUTER: sfs router
- AUTHORIZATION TYPE: IP
- PERMISSION: Read Only or Read/Write access

- 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:



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.