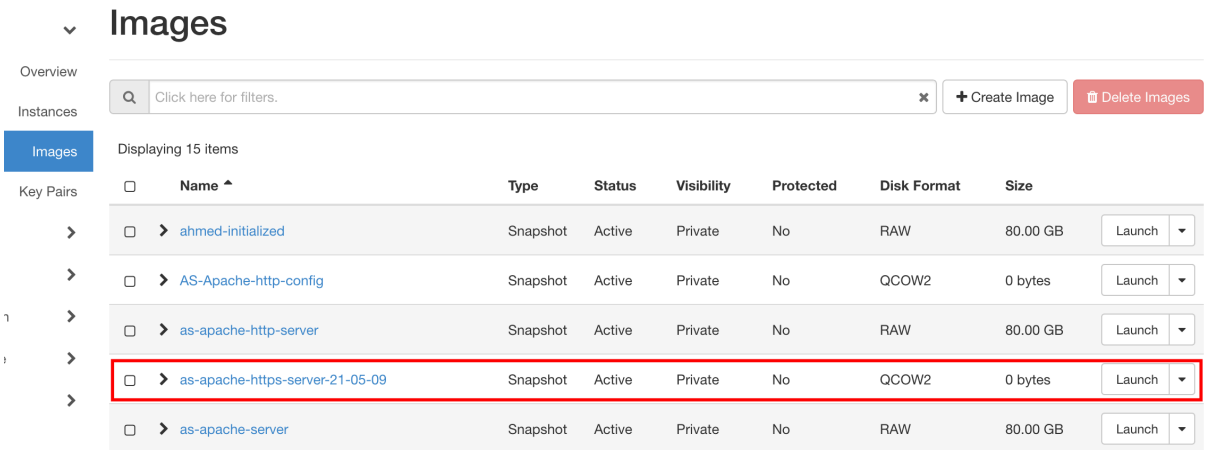
# NFS configuration to Ubuntu20 - TotD 2.0


## Abdullah Sajal


**Learning Goal:** Configuring NFS file share service to Linux for sharing files and directories across servers

### Task 1: Snapshot backup from Pouta

I have taken a snapshot backup of my server from Pouta Dashboard. Name: *as-apache-https-server-21-05-09*




### Task 2: Create a new host for NFS server setup to Pouta (Launch new Instance)

SSH key generate:
*as@as-server-tech21:~$ ssh key-gen*

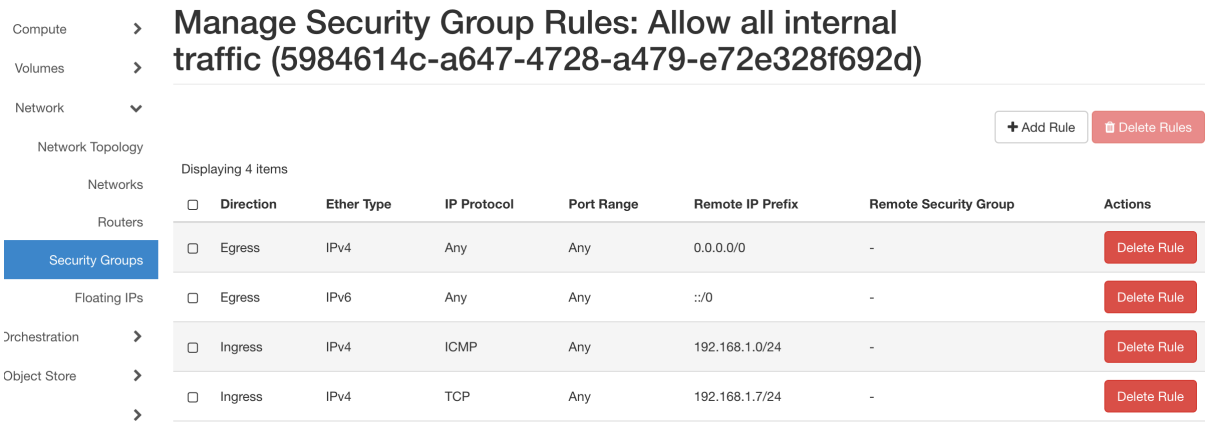
```
as@as-server-tech21:~$ pwd
/home/as
as@as-server-tech21:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/as/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/as/.ssh/id_rsa
Your public key has been saved in /home/as/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:BrW7SrtR/I7cNSP8GQd3oOw9Tfn8G+0U8/cnp07ho1w as@as-server-tech21
The key's randomart image is:
+---[RSA 3072]----+
|          .      |
|         . .     |
|        . .   .  |
|         o . . . ..|
|          S   + o+o|
|         o + . = **|
|        o . + * E.O|
|       . = + = X.=B|
|        +.o o =.o=*|
+----[SHA256]-----+
```

SSH public key for user ‘as’

```
as@as-server-tech21:~$ cat .ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQC915nARmfxm+F+PCrt7YZ/XG7wQ6DfEmx4IvPTIL6fpX/
kGU3AycOnS38pKis+SqVIbYw62nQ6EdL+EoYciVWSwjJ+y77wGu7lpc9sT8x+KcZKz5rCiHJaM+xX+heWzw
yz3g3svH03NPxxN0oZ0JzoXd+RdZawW8LCbQTszp3+iZP5VJOAFWq00OHXcReJXypoEchY5kdUbWnn1JU/V
9yN8j7A30wk3t3IuJjqp2EUfMxHKUNK8Sl8/HAygqHrw0HEljRDdzLuoOa9YT96yj0p+8K1Uou2HJ/APChT
2c1ru0ibwF0UCAohSkuDDLx/f4xlJPFnb2fRId2o+M6jwJg9VnplqE5OwypijfXx0z5onaJ4s1gZXFZ60i6
1lVXzQ9A32IdqigVcm706UyDyXHQYEnjKrtpmJEsxo06iolezaU5HOzqq88hcBYv92dNcM9FFSgo9qw9zyi
OFih/iWaNbr3hrYANP6uq0FoeHok0tfICGunboUN/AmYMsHDlIAB8= as@as-server-tech21
```

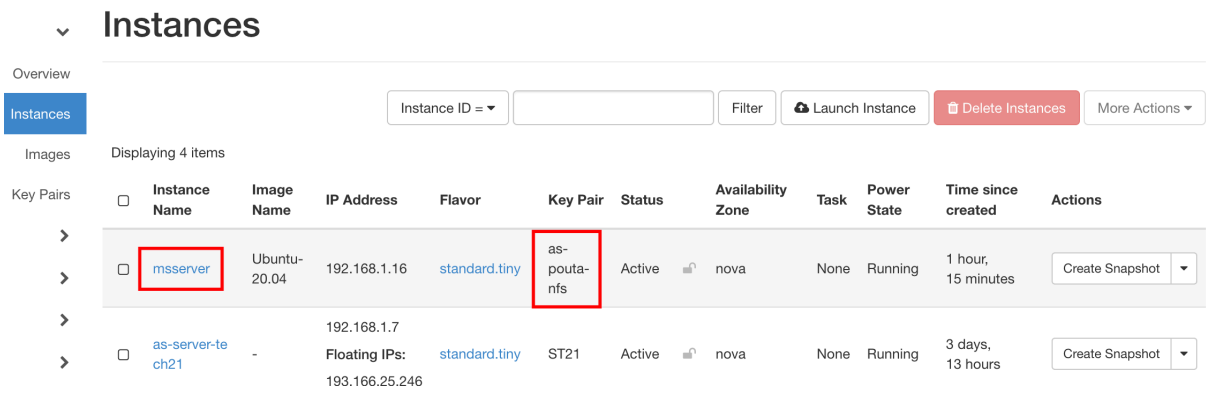
Create a new Security Group in Pouta dashboard:

The security group name is “Allow all internal traffic”




Launch new instance:

Name the new Instance is “msserver” with key pair name “as-pouta-nfs” and security group name “Allow all internal traffic”




```
as@as-server-tech21:~$ ping 192.168.1.16
PING 192.168.1.16 (192.168.1.16) 56(84) bytes of data.
64 bytes from 192.168.1.16: icmp_seq=1 ttl=64 time=0.699 ms
64 bytes from 192.168.1.16: icmp_seq=2 ttl=64 time=0.686 ms
64 bytes from 192.168.1.16: icmp_seq=3 ttl=64 time=1.35 ms
64 bytes from 192.168.1.16: icmp_seq=4 ttl=64 time=0.607 ms
^C
```

## Task 3: Configure the new host according to the general instructions for Pouta hosts.

```
ubuntu@msserver:~$ sudo useradd -u 1381 -m -s /bin/bash as
ubuntu@msserver:~$ sudo useradd -u 1371 -m -s /bin/bash edawg
ubuntu@msserver:~$ sudo useradd -u 1391 -m -s /bin/bash ef
```

```
ubuntu@msserver:~$ sudo -i
root@msserver:~# cd ~as
root@msserver:/home/as# cp -p -r ~ubuntu/.ssh .
root@msserver:/home/as# ls -la
total 24
drwxr-xr-x 3 as     as     4096 May 10 01:09 .
drwxr-xr-x 6 root   root   4096 May 10 01:07 ..
-rw-r--r-- 1 as     as      220 Feb 25  2020 .bash_logout
-rw-r--r-- 1 as     as     3771 Feb 25  2020 .bashrc
-rw-r--r-- 1 as     as      807 Feb 25  2020 .profile
drwx------ 2 ubuntu ubuntu 4096 May  9 23:37 .ssh
root@msserver:/home/as# chown -R as:as .ssh/
root@msserver:/home/as# chmod 600 .ssh/authorized_keys
root@msserver:/home/as# exit
logout
```

```
root@msserver:~# vi /etc/sudoers.d/
root@msserver:~# vi /etc/sudoers.d/90-cloud-init-users
root@msserver:~# exit
logout
ubuntu@msserver:~$ exit
logout
Connection to 192.168.1.16 closed.
as@as-server-tech21:~$ exit
logout
Connection to 193.166.25.246 closed.
```

```
# User rules for ubuntu
ubuntu ALL=(ALL) NOPASSWD:ALL
as ALL=(ALL) NOPASSWD:ALL
~
```

**Task 4: Install the required the NFS packages**

First update apt and install the packages for host server and client server

On the Host:

as@msserver:~$ sudo apt update
as@msserver:~$ sudo apt upgrade
as@msserver:~$ sudo apt install nfs-kernel-server

On the client:

as@as-server-tech21:~$ sudo apt update
as@as-server-tech21:~$ sudo apt upgrade
as@as-server-tech21:~$ sudo apt install nfs-common

**Task 5: Configure server to share a directory that contains the tips files.**

as@msserver:~$ sudo mkdir /var/nfs/general -p

as@msserver:~$ sudo chown nobody:nogroup /var/nfs/general

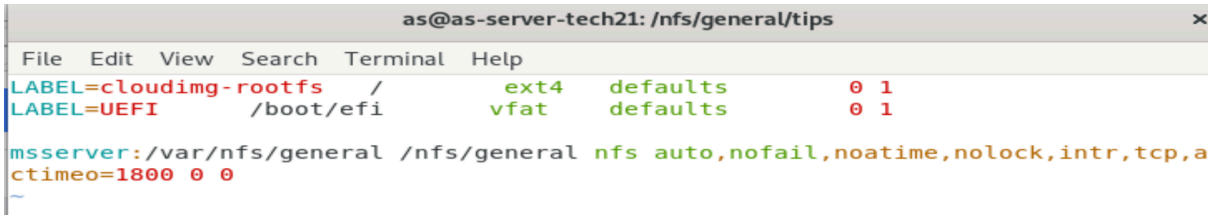
```
as@msserver:~$ cd /var/nfs/general/
as@msserver:/var/nfs/general$ sudo mkdir tips
as@msserver:/var/nfs/general$ sudo chown -R as:as tips
as@msserver:/var/nfs/general$ cd tips/
as@msserver:/var/nfs/general/tips$ vi 1.txt
as@msserver:/var/nfs/general/tips$
```

```
as@msserver:~$ sudo vi /etc/exports
as@msserver:~$ sudo systemctl restart nfs-kernel-server
as@msserver:~$ sudo systemctl status nfs-kernel-server
● nfs-server.service - NFS server and services
     Loaded: loaded (/lib/systemd/system/nfs-server.service; enabled; vendor
     Active: active (exited) since Mon 2021-05-10 01:48:46 UTC; 9s ago
    Process: 20615 ExecStartPre=/usr/sbin/exportfs -r (code=exited, status=0
    Process: 20616 ExecStart=/usr/sbin/rpc.nfsd $RPCNFSDARGS (code=exited, s
   Main PID: 20616 (code=exited, status=0/SUCCESS)

May 10 01:48:45 msserver systemd[1]: Starting NFS server and services...
May 10 01:48:46 msserver systemd[1]: Finished NFS server and services.
```

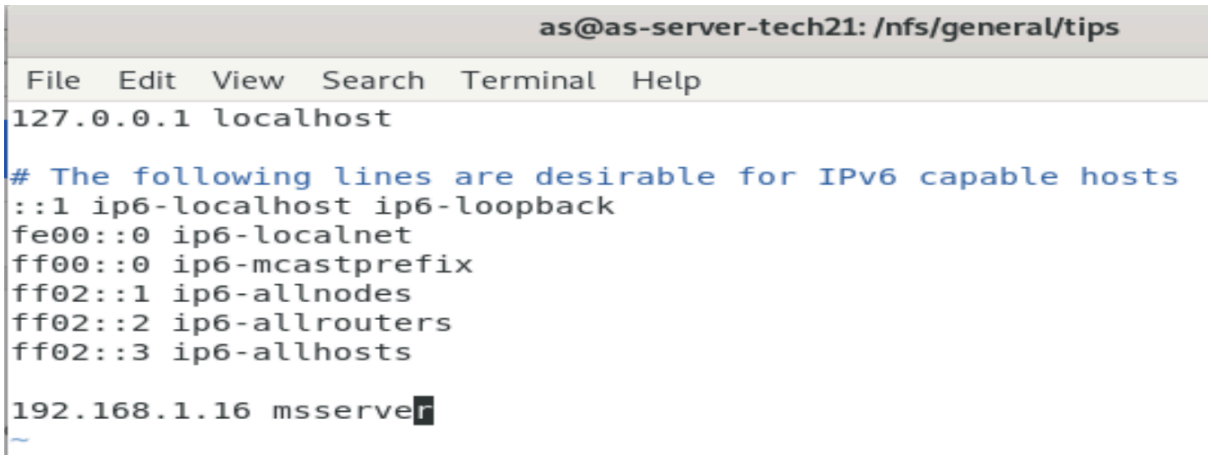
**Task 6: Configure the client host for accessing the directory from NFS server**

```
as@as-server-tech21:~$ sudo mkdir -p /nfs/general
as@as-server-tech21:~$ sudo mkdir -p /nfs/home
as@as-server-tech21:~$ sudo mount 192.168.1.16:/var/nfs/general /nfs/general
```

```
as@as-server-tech21:~$ cd /nfs/general/
as@as-server-tech21:/nfs/general$ ls
tips
as@as-server-tech21:/nfs/general$ cd tips/
as@as-server-tech21:/nfs/general/tips$ ls
1.txt
as@as-server-tech21:/nfs/general/tips$ cat 1.txt
NFS command to mount:

sudo mount 192.168.1.16:/var/nfs/general /nfs/general
as@as-server-tech21:/nfs/general/tips$ sudo vi /etc/fstab
as@as-server-tech21:/nfs/general/tips$ sudo vi /etc/fstab
```




as@as-server-tech21:~$ sudo vi /etc/hosts




**Task 7: Modify and configure the TotD script to access files from NFS server instead of local disk.**

```
as@msserver:~$ exit
logout
Connection to 192.168.1.16 closed.
as@as-server-tech21:~$ ssh 192.168.1.16
Enter passphrase for key '/home/as/.ssh/id_rsa':
Welcome to Ubuntu 20.04.2 LTS (GNU/Linux 5.4.0-72-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Mon May 10 12:31:54 UTC 2021

  System load:  0.0               Processes:             117
  Usage of /:   1.9% of 77.36GB   Users logged in:       1
  Memory usage: 25%               IPv4 address for ens3: 192.168.1.16
  Swap usage:   0%

 * Pure upstream Kubernetes 1.21, smallest, simplest cluster ops!

     https://microk8s.io/
```

```
================================================================================
 TIP OF TODAY (/home/as/scripts/tips/6.txt)
--------------------------------------------------------------------------------
# Author: Abdullah Sajal <abdullah.sajal@tuni.fi>
# Date: 2021-03-23
#
# Answer to exercise "6.1 Gzip1 1"
# Give command to compresss "file.txt" with `gzip(1)' using best posi
ble compression.
# === Answer start ===

gzip --best file.txt


gzip -d file.txt.gz
gunzip file.txt.gz



# End of file
================================================================================

as@msserver:~$
```

**Task 7: Make sure the configuration is permanent.**

Boot both hosts to verify the configuration.