**Assignment 4: Accessing NFS Storage**

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**SYST8111: Server Virtualization**

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Task 1: Deploy a Virtual Machine from a Template

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Task 1: Create the NFS share

Created a logical volume, format it and make it ready for NFS. (SYST8111 - Assignment 4, n.d.)

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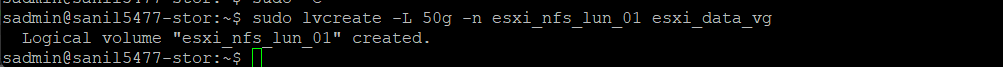
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* lvcreate -L 50g -n esxi\_nfs\_lun\_01 esxi\_data\_vg



* mkdir /nfs
* mkdir /nfs/lun\_01

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* mkfs.ext4 /dev/esxi\_data\_vg/esxi\_nfs\_lun\_01
* mount /dev/esxi\_data\_vg/esxi\_nfs\_lun\_01 /nfs/lun\_01

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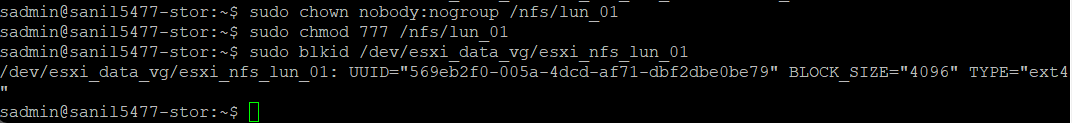
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Part 2: Modified the permissions of the mounted filesystem

* sudo chown nobody:nogroup /nfs/lun\_01
* sudo chmod 777 /nfs/lun\_01

Made the mounted file system permanent:

* sudo blkid /dev/esxi\_data\_vg/esxi\_nfs\_lun\_01



/dev/esxi\_data\_vg/esxi\_nfs\_lun\_01: UUID="569eb2f0-005a-4dcd-af71-dbf2dbe0be79" BLOCK\_SIZE="4096" TYPE="ext4"

Ran the command vi /etc/fstabA screen shot of a computer

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Added the UUID=569eb2f0-005a-4dcd-af71-dbf2dbe0be79 /nfs/lun\_01 ext4 defaults 0 1

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Configured NFS

Edit the file /etc/exports, and add the following lines:

* /nfs/lun\_01 192.168.1.102(rw,sync,no\_subtree\_check)
* /nfs/lun\_01 192.168.1.103(rw,sync,no\_subtree\_check)

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Task 2: Configure access to a NFS datastore

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Task 3: View NFS storage information

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Task 4:

What is NFS?

**NFS (Network File System)** is a distributed file system protocol originally developed by **Sun Microsystems** in **1984**. It allows a user on a client computer to access files over a computer network in a manner like how local storage is accessed.

1. **Definition**: NFS is a file system mechanism that enables data storage and retrieval from multiple disks and directories through a shared network. It allows local users to access remote data and files as if they were locally stored.
2. **How It Works**:
   1. The server (where the data is stored) implements an **NFS daemon** to make data available to clients.
   2. Clients issue installation commands to request access to exported data.
   3. If successful, the client can interact with the file system within specified parameters.
3. **Advantages of NFS**:
   1. **Easy Sharing**: NFS facilitates data sharing between clients.
   2. **Centralized Management**: It provides a centralized approach to managing files.
   3. **Security**: Only authenticated servers can protect and provide access to data.

What are the benefits of using NFS in Server Virtualization?

**Network File System (NFS)** offers several advantages when used in server virtualization environments. Here are few benefits:

**Cost-Effectiveness:** NFS offers a cheap network file sharing solution. When compared to alternative storage choices like fibre channel (FC), it is frequently less expensive to set up and maintain. One factor contributing to NFS shared storage pools' affordability is how simple it is to provision and maintain.

**Easy Management and Setup**: It's simple to set up NFS. It's simple to configure because it makes use of the current IP infrastructure.   
NFS makes it possible to handle shared files centrally, which streamlines administrative work.

**Decreased Requirement for Disk Space:** NFS enables users to access remote files in the same manner as local ones. Individual users consequently need less local disk space.   
For virtualized systems, this decrease in the requirement for local storage is advantageous.

**Performance and Stability:** VMware vSphere operating on NFS provides robust performance and stability when set up properly. On block-based storage, vSphere's capabilities are comparable to those on NFS.

**Data protection and disaster recovery:** Using NFS, administrators can make virtualized distant copies of their data. This feature makes sure that data is available in the event of a calamity. NFS is a secure protocol that guards against unwanted access to data. Additionally, it makes remote user activity auditing and monitoring possible.

# References

*SYST8111 - Assignment 4*. (n.d.). Retrieved from eConestoga: https://conestoga.desire2learn.com/d2l/common/viewFile.d2lfile/Database/MTM2NjE3Nzgz/SYST8111%20-%20Assignment%204.docx?ou=1002908