## Storage as Networksenice

```
Provide block-based storage
Storage Types :-
        1- DAS Storage Direct Attached Storage ( local Disks Attached Directly to Server )
        2- NAS Storage Network Attached Storage (File Based Storage - File Sharing Service NFS-SMB)
                                                ( Block based Storage ) we will talk about
        3- SAN Storage Storage Area Network
                                                                                  this session
                               2 tach no logres :
block-based storage (SAN)
FC SAN SAN Protocol
FC SAN
Chammad SAN Storage
IP SAN > TOP/IP
                                  10 W FC 31 5 June 1
            How IP SAN works?
                                                         How FC SAN works
 IDSAN
 iscsi 3260
              Linux Server iscsi Target Server
                                             Storuge
                                                                 FC SAN
                                                                                           Contains all showars in
                                             Performance
                                                             100 GB
                          ACL Access Control List
Server1 and Server2 Only Can
Access LUN
                                          Saller Connect to SAN
                                                                                           the company . Connected with
                                          the Storage appears VK
                                                                                           Fiber cable. expensive + fast
                                           a disk on server
                                          and it treated as a named disk.
                                                                          (Connect should to SAN smitch)
                                                 Server
 Server 1
                                                                    SAN Switch
                               Server 2
                                                                                         Server2
                                             Disk
                                              100 G
                                                                        +10 Gb/s
               Ethernet Switch
                                                                                              100
                                                             HBA ) interface
                                           @ Part L
                                                             Adapter HA used in High workebility
                                           Pile sys
                                           Mount
           NIC 10.0.0.200
                                          (C selver doube
                                           IN FC SAN STORAGE
                  attacker can
                  access the Date
                                                  Here the Storage will be snowed
                 so we apply hel
                                                     by the 2 servers. Not sharing.
                                                     TH WILL take a copy of the SAN Storage
                                                          and save it in the servers
   ISCS[ -> Tep/p protocol ISCS protocol provide Shock-based
     SCSI > a Disk
                                                            without Fiber Channel.
                  is better in performance then 195AN
  -Back store Block storage will be Assigned As LUN Disk - LVM
  -LUN: Logical unit Number
                                                   (Lun1 Lun2 Lun3) >> Target >>> assigned target to Server1
  -Target: Group of Luns assigned to server
  -ACL: Access control List Security ( who can access Target )
         Naming Convintion for target and initator
  -ION :
                  iqn.2022-03.com.abc:t1
                                                   iqn.2022.com.abc:client1
  iscsi target configuration
  # lsblk
  # fdisk /dev/nvme0n2
                          10 GB Partition /dev/nvme0n2p1 →
  # yum install targetcli.noarch > package to configure
  # systemctl enable target.service --now
  # targetcli
  /> backstores/block create block1 /dev/nvme0n2p1
                                                                                     create backstore
  /> iscsi/ create iqn.2022-03.com.abc:t1
                                                                                     create target
  /> iscsi/iqn.2022-03.com.abc:t1/tpg1/luns create /backstores/block/block1
                                                                                     create lun
  /> iscsi/iqn.2022-03.com.abc:t1/tpg1/acls create iqn.2022-03.com.abc:client1
                                                                                     create ACL
  /> exit ; /> (s
  # firewall-cmd --add-port=3260/tcp --permanent
```

# firewall-cmd --reload

```
On iscsi initator
# yum install iscsi-initiator-utils.i686
# vim /etc/iscsi/initiatorname.iscsi
                                                           discover available targets
InitiatorName=iqn.2022-03.com.abc:client1
# systemctl enable iscsi --now
# iscsiadm --mode discovery --type sendtargets --portal 10.0.0.100
# iscsiadm --mode node --targetname iqn.2022-03.com.abc:t1 --portal 10.0.0.100 --login
                                             add target to local device of
# mkdir /m1
# pvcreate /dev/sda
# vgcreate vg0 /dev/sda
# lvcreate --name lv0 --size 10G vg0
# lvcreate --name lv0 --size 9G vg0
# mkfs.ext4 /dev/vg0/lv0
# mount /dev/vg0/lv0 /m1
# lsblk
```