

Devon's iSCSI Initiator Procedure for RHEL6/CentOS6

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Description

Configure the box to use an iSCSI target disk. Format as ext4. Make the mount persistent across reboots.

Packages Needed

- `iscsi-initiator-utils`

Procedure to configure the iSCSI initiator

- obtain the IP address, IQN, username, and password of the target
- configure the initiator's name;
 - formulate an IQN for the local system;
 - `# /sbin/iscsi-iname > iscsi-name.txt`
 - generates a random IQN
 - create an `/etc/iscsi/initiatorname.iscsi` file;
 - add a `InitiatorName=iqn` record
- start the iSCSI service;
 - `# chkconfig iscsi on`
 - `# chkconfig iscsid on`
 - `# service iscsi start`
 - `# service iscsid start`

Procedure to discover and prepare the LUN

- discover the LUN targets;
 - `# iscsiadm -m discovery -t sendtargets -p targetIPaddy`
 - `# service iscsi restart`
- configure logon information, if needed;
 - `iscsiadm -m node --targetname "iqn" --portal "targetIPaddy:port" --op=update --name node.session.auth.authmethod --value=CHAP`
 - `iscsiadm -m node --targetname "iqn" --portal "targetIPaddy:port" --op=update --name node.session.auth.username --value=username`

- **iscsiadm -m node --targetname "iqn" --portal "targetIPaddy:port" --op=update --name node.session.auth.password --value=password**
 - note that the port number is 3260 by default
- check to see if a session to the LUN was added;
 - **# iscsiadm -m session**
- manually log on to the target, if there is not a session already;
 - **# iscsiadm -m node -T iqn -p targetIPaddy --login**
- view target "disk" characteristics and partition it;
 - **# fdisk -l**
 - the device name will probably be **/dev/sdx** where x is a letter from **a** to **z**
 - **# fdisk device**
 - **# fdisk /dev/sdc**
 - **n** for new partition
 - **p** for primary partition
 - **1** for first partition
 - **Enter** to start at default first cylinder
 - **nnnM** or **nnnG** for last cylinder
 - **t** to set filesystem type
 - **l** to list hexcodes
 - **83** for a Linux filesystem
 - **w** to write changes
 - **# partprobe** to refresh the partition table without rebooting
- create a filesystem on the LUN;
 - **# mkfs -t type device**
 - **# mkfs -t ext4 /dev/sdc1**
 - this may take awhile!

Procedure to mount and use the target LUN

- mount the filesystem;
 - **# mkdir mountpoint**
 - **# mkdir /iscsi**
 - **# mount device mountpoint**
 - **# mount /dev/sdc1 /iscsi**
- copy some files into the mounted filesystem
- find the UUID of the target "disk";
 - **ls -l /dev/disk/by-uuid**

- note that the above command doesn't reference a particular disk (i.e. **sda1**), but "**disk**" as a generic class
- make the mount persistent by editing **/etc/fstab**;
 - **device mountpoint fstype options 0 0**
 - **UUID=uuid mountpoint fstype options 0 0**
 - **UUID=606b1cdf-9b86-43bc-83b7-a96bb2b5353d /iscsi ext4 _netdev 0 0**
 - note that the **_netdev** option is required for an iSCSI target disk
- note that the device name, **/dev/sdc1**, is vulnerable to change if/when other disks etc. are added, so referring to the UUID in **/etc/fstab** is preferable
- note that if multiple systems access the same iSCSI LUN, the filesystem can experience conflicts and corruption; some other mechanism is needed to prevent conflicts

Procedure to unmount and disconnect the LUN

- note that when the initiator has logged onto the LUN, it expects 100% connectivity; if the iSCSI target system is shut off or connectivity is lost, the initiator software will throw errors into **/var/log/messages** in "broken record mode"
- when the LUN is no longer needed, it should be unmounted and the initiator should be logged off from the LUN, as follows;
 - **# umount mountpoint**
 - **# iscsiadm -m node -T *iqn* -p *targetIPaddy* --logout**

Verification

- use the **mount** command to verify that the target is mounted
- reboot and recheck that the target is mounted and has a filesystem