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HA with CentOS and RedHat and like

Environment

Install two servers with one IP virtual and shared storage:



- Server1: **ext1** with IP **192.168.122.113**
- Server2: **ext2** with IP **192.168.122.53**
- IP virtual: **192.168.122.70**
- Shared storage on device **/dev/sda** mounted on **/home/db2**
- HA user named **hacluster** with password manager

Tested on [CentOS 7.5](#). Some exceptions for testing on RHEL 7.3.

Install software

On both nodes:

Configure **/etc/hosts**:

```
127.0.0.1 localhost localhost.localdomain localhost4
localhost4.localdomain4
::1 localhost localhost.localdomain localhost6
localhost6.localdomain6
192.168.122.113 ext1
192.168.122.53 ext2
192.168.122.70 ext
```

Install and enable pacemaker:

```
$ sudo yum install pcs fence-agents-all -y
$ sudo systemctl disable firewalld
$ sudo systemctl stop firewalld
$ sudo passwd hacluster
$ sudo systemctl start pcsd.service
$ sudo systemctl enable pcsd.service
$ sudo lvmconf --enable-halvm --services --startstopservices
```

If you prefer get working the firewall:

```
$ sudo firewall-cmd --permanent --add-service=high-availability
$ sudo firewall-cmd --add-service=high-availability
```

If you are using RHEL you must enable [HighAvailability](#).

If you receive this message:

```
Unit lvm2-cluster-activation.service could not be found.
Failed to execute operation: No such file or directory
Failed to stop lvm2-cluster-activation.service: Unit lvm2-cluster-activation.service not loaded.
```

Use this steps:

```
$ sudo lvmconf --enable-halvm
$ sudo systemctl disable lvm2-lvmetad
$ sudo systemctl stop lvm2-lvmetad
```

On one node:

Create one partition with fdisk and configure a physical group, a volume group and logical volume:

```
$ sudo pcs cluster auth ext1 ext2
$ sudo pcs cluster setup --start --name baccluster ext1 ext2
$ sudo pcs cluster enable --all
$ sudo fdisk /dev/sda
$ sudo pvcreate /dev/sda1
$ sudo vgcreate bacvg /dev/sda1
$ sudo lvcreate -L10G -n baclv bacvg
$ sudo mkfs.ext4 /dev/mapper/bacvg-baclv
```

Edit **/etc/lvm/lvm.conf** and create or modify the line `volume_list = []`, add all the vg that are outside the shared storage, in our case all except bacvg. For example: `volume_list = ["centos" , "otro"]`

Execute on both nodes:

```
$ sudo dracut -H -f /boot/initramfs-$(uname -r).img $(uname -r)
```

On the other node:

```
$ sudo partprobe
$ sudo pvscan
$ sudo vgscan
$ sudo lvscan
```

Validate that you can see the logical volume created on the other server.

Reboot both nodes.

On one node:

```
$ sudo pcs resource create bacip IPAddr2 ip=192.168.122.70 cidr_netmask=24 -  
-group bacgroup  
$ sudo pcs resource create baclvm LVM volgrpname=bacvg exclusive=true --  
group bacgroup  
$ sudo pcs resource create bacfs Filesystem device="/dev/mapper/bacvg-baclv"  
directory="/home/db2/" fstype="ext4" --group bacgroup  
$ sudo pcs property set stonith-enabled=false  
$ sudo pcs property set no-quorum-policy=ignore
```

You can get cluster status with:

```
$ sudo pcs status
```

You can migrate resources between nodes

```
$ sudo pcs resource move bacgroup ext2
```

If the resources migrates automatically to the node that you moved all resources, remove the location constraint with:

```
$ sudo pcs resource clear bacgroup
```

Monitoring resources

The cluster can starts automatically resources if was stopped, this can be OK or not. If you want that the cluster doesn't monitor resources use this command to create it:

```
pcs resource create bachttpd systemd:httpd op monitor enabled=false --group  
bacgroup
```

If the resource was created update it:

```
pcs resource update bachttpd op monitor enabled=false
```

References

- <https://www.itzgeek.com/how-tos/linux/centos-how-tos/configure-high-availability-cluster-on-centos-7-rhel-7.html>
- https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/high_availability_add-on_administration/index
- http://clusterlabs.org/pacemaker/doc/en-US/Pacemaker/1.1/html/Clusters_from_Scratch/_move_resources_manually.html

Icon credits

- <https://www.flaticon.com/authors/nhor-phai>
- <https://www.flaticon.com/authors/smashicons>

- <http://www.freepik.com>
- <https://www.flaticon.com/authors/twitter>

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