

# Creating a two-node RHEL cluster with Virtual IP using CMAN and Pacemaker.

CMAN v3 is a Corosync plugin that monitors the names and number of active cluster nodes in order to deliver membership and quorum information to clients (such as the Pacemaker daemons). We are using this to have a VIP (Virtual IP) being made high available.

Links :

[Blog Matt](#)

[Cluster Labs](#)

## Configuring Repo on RHEL 6.6

```
[root@waeprrkhe001 ~]# cat /etc/yum.repos.d/centos.repo
[centos-6-base]
name=CentOS-$releasever - Base
mirrorlist=http://mirrorlist.centos.org/?release=6&arch=x86_64&repo=os
baseurl=http://mirror.centos.org/centos/6/os/x86_64/
enabled=1
gpgkey=http://mirror.centos.org/centos/6/os/x86_64/RPM-GPG-KEY-CentOS-6
[root@waeprrkhe001 ~]#
```

## Installation and initial configuration

Install the required packages on both machines:

```
yum install pacemaker cman pcs ccs resource-agents
```

Set up and configure the cluster on the primary machine, changing newcluster , primary.server.com and secondary.server.com as needed:

```
ccs -f /etc/cluster/cluster.conf --createcluster newcluster
ccs -f /etc/cluster/cluster.conf --addnode primary.server.com
ccs -f /etc/cluster/cluster.conf --addnode secondary.server.com
ccs -f /etc/cluster/cluster.conf --addfencedev pcmk agent=fence_pcmk
ccs -f /etc/cluster/cluster.conf --addmethod pcmk-redirect primary.server.com
ccs -f /etc/cluster/cluster.conf --addmethod pcmk-redirect secondary.server.com
ccs -f /etc/cluster/cluster.conf --addfenceinst pcmk primary.server.com pcmk-redirect \
                                         port=primary.server.com
ccs -f /etc/cluster/cluster.conf --addfenceinst pcmk secondary.server.com pcmk-redirect \
                                         port=secondary.server.com
```

Copy /etc/cluster/cluster.conf from the primary server to secondary server in cluster.

It's necessary to turn off quorum checking, so do this on both machines:

```
echo "CMAN_QUORUM_TIMEOUT=0" >> /etc/sysconfig/cman
```

## Start the services

Start up the services on both servers.

```
service cman start
service pacemaker start
```

Make sure both services can be reboot:

```
chkconfig cman on
chkconfig pacemaker on
```

## Configure and create floating IP

Configure the cluster on the primary server.

```
pcs property set stonith-enabled=false
pcs property set no-quorum-policy=ignore
```

Create the Virtual IP on the primary server. This VIP will be assigned between the 2 servers. If primary goes down, then this ip is assigned to the secondary server.

```
pcs resource create vipbalancerip ocf:heartbeat:IPaddr2 ip=192.168.0.100 cidr_netmask=32 \
                                                    op monitor interval=30s
pcs constraint location vipbalancerip prefers primary.server.com=INFINITY
```

## Cluster administration

To monitor the status of the cluster:

```
pcs status
```

Here is the output from primary

```
[root@waeprrkhe001 ~]# pcs status
Cluster name: vipcluster
Last updated: Mon Sep 28 20:53:57 2015
Last change: Mon Sep 28 19:52:47 2015
Stack: cman
Current DC: primary.server.com - partition with quorum
Version: 1.1.11-97629de
2 Nodes configured
1 Resources configured
```

```
Online: [ primary.server.com secondary.server.com ]
```

Full list of resources:

```
livefrontendIP0          (ocf::heartbeat:IPaddr2):          Started primary.server.com
```

```
[root@waeprrkhe001 ~]#
```

To show the full cluster configuration:

```
pcs config
```

Here is the output from primary

```
[root@waeprrkhe001 ~]# pcs config
Cluster Name: vipcluster
Corosync Nodes:
  primary.server.com secondary.server.com
Pacemaker Nodes:
  primary.server.com secondary.server.com

Resources:
  Resource: livefrontendIP0 (class=ocf provider=heartbeat type=IPAddr2)
  Attributes: ip=192.168.0.100 cidr_netmask=32
  Operations: start interval=0s timeout=20s (livefrontendIP0-start-interval-0s)
               stop interval=0s timeout=20s (livefrontendIP0-stop-interval-0s)
               monitor interval=30s (livefrontendIP0-monitor-interval-30s)

Stonith Devices:
Fencing Levels:

Location Constraints:
  Resource: livefrontendIP0
    Enabled on: primary.server.com (score:INFINITY)
                (id:location-livefrontendIP0-primary.server.com-INFINITY)

Ordering Constraints:
Colocation Constraints:

Resources Defaults:
  No defaults set
Operations Defaults:
  No defaults set

Cluster Properties:
  cluster-infrastructure: cman
  dc-version: 1.1.11-97629de
  no-quorum-policy: ignore
  stonith-enabled: false
[root@waeprrkhe001 ~]#
```

**Failover testing.**

Shutdown secondary server.

```
[root@waeprrkhe001 ~]# pcs status
Cluster name: vipcluster
Last updated: Mon Sep 28 20:08:00 2015
Last change: Mon Sep 28 19:52:47 2015
Stack: cman
Current DC: primary.server.com - partition WITHOUT quorum
Version: 1.1.11-97629de
2 Nodes configured
```

1 Resources configured

Online: [ primary.server.com ]  
OFFLINE: [ secondary.server.com ]

Full list of resources:

livefrontendIP0 (ocf::heartbeat:IPaddr2): Started primary.server.com

Shutdown primary server.

```
[root@waeprrkhe002 ~]# pcs status
Cluster name: vipcluster
Last updated: Mon Sep 28 20:05:30 2015
Last change: Mon Sep 28 19:52:47 2015
Stack: cman
Current DC: secondary.server.com - partition WITHOUT quorum
Version: 1.1.11-97629de
2 Nodes configured
1 Resources configured
```

Online: [ secondary.server.com ]  
OFFLINE: [ primary.server.com ]

Full list of resources:

livefrontendIP0 (ocf::heartbeat:IPaddr2): Started secondary.server.com