

**Pacemaker With RHEL7 Part 08 - Cluster Node Management** ..... 3

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# Pacemaker With RHEL7 Part 08 - Cluster Node Management

: <http://www.unixarena.com/2016/01/rhel-7-pacemaker-cluster-node-management.html>

Pacemaker/Corosync OS / , / .

( ). 가 .

vgres (LVM - ), webvolfs ( ), ClusterIP ( HA IP  
 ), webres (Apache) UAKVM2\_res (HA KVM Guest) .

```
[root@UA-HA ~]# pcs resource
Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA
  webvolfs   (ocf::heartbeat:Filesystem):    Started UA-HA
  ClusterIP  (ocf::heartbeat:IPaddr2):    Started UA-HA
  webres     (ocf::heartbeat:apache):      Started UA-HA
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA2
[root@UA-HA ~]#
```

UA-HA UA-HA2 .

```
[root@UA-HA ~]# pcs cluster status
Cluster Status:
  Last updated: Sat Oct 17 11:58:23 2015      Last change: Sat Oct 17
  11:57:48 2015 by root via crm_attribute on UA-HA
  Stack: corosync
  Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
  2 nodes and 5 resources configured
  Online: [ UA-HA UA-HA2 ]

PCSD Status:
  UA-HA: Online
  UA-HA2: Online
[root@UA-HA ~]#
```

1.

```
[root@UA-HA ~]# pcs status nodes
Pacemaker Nodes:
  Online: UA-HA UA-HA2
  Standby:
  Offline:
Pacemaker Remote Nodes:
  Online:
  Standby:
  Offline:
[root@UA-HA ~]#
```

2.

```
[root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 12:00:35 2015          Last change: Sat Oct 17
11:57:48 2015 by root via crm_attribute on UA-HA
Stack: corosync
Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Full list of resources:

Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA
  webvolfs   (ocf::heartbeat:Filesystem):      Started UA-HA
  ClusterIP (ocf::heartbeat:IPaddr2):  Started UA-HA
  webres     (ocf::heartbeat:apache):          Started UA-HA
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain):    Started UA-HA2

PCSD Status:
  UA-HA: Online
  UA-HA2: Online

Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA ~]#
```

## 3. crm\_mon

```
[root@UA-HA ~]# crm_mon
Last updated: Sat Oct 17 12:05:50 2015          Last change: Sat Oct 17
12:04:28 2015 by root via cibadmin on UA-HA
Stack: corosync
Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):      Started UA-HA
  webvolfs   (ocf::heartbeat:Filesystem):     Started UA-HA
  ClusterIP  (ocf::heartbeat:IPaddr2):     Started UA-HA
  webres     (ocf::heartbeat:apache):         Started UA-HA
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA2
```

```
crm_mon          Ctrl + c
```

```
[root@UA-HA ~]# crm_mon
Connection to the CIB terminated
[root@UA-HA ~]#
```

## 4.

```
[root@UA-HA ~]# pcs cluster standby UA-HA2
[root@UA-HA ~]#
```

```
[root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 12:09:35 2015          Last change: Sat Oct 17
12:09:23 2015 by root via crm_attribute on UA-HA
Stack: corosync
Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Node UA-HA2: standby
Online: [ UA-HA ]

Full list of resources:
```



```
Highest expected: 2
Total votes:      2
Quorum:          1
Flags:           2Node Quorate WaitForAll
```

Membership information

```
-----
Nodeid      Votes Name
    2         1 UA-HA2
    1         1 UA-HA (local)
[root@UA-HA ~]#
```

UA-HA2  
"UA-HA2"

```
[root@UA-HA ~]# corosync-quorumtool
Quorum information
-----
Date:                Sat Oct 17 12:16:25 2015
Quorum provider:    corosync_votequorum
Nodes:              1
Node ID:            1
Ring ID:            2300
Quorate:            Yes
```

Votequorum information

```
-----
Expected votes:    2
Highest expected:  2
Total votes:       1
Quorum:           1
Flags:            2Node Quorate WaitForAll
```

Membership information

```
-----
Nodeid      Votes Name
    1         1 UA-HA (local)
[root@UA-HA ~]#
```

1. UA-HA2 가

```
[root@UA-HA ~]# pcs cluster unstandby UA-HA2
[root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 12:29:21 2015          Last change: Sat Oct 17
```

```
12:29:19 2015 by root via crm_attribute on UA-HA
Stack: corosync
Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured
```

```
Online: [ UA-HA UA-HA2 ]
```

```
Full list of resources:
```

```
Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA
  webvolfs   (ocf::heartbeat:Filesystem):   Started UA-HA
  ClusterIP  (ocf::heartbeat:IPaddr2):      Started UA-HA
  webres     (ocf::heartbeat:apache):       Started UA-HA
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA
```

```
PCSD Status:
  UA-HA: Online
  UA-HA2: Online
```

```
Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA ~]#
```

2. UA-HA2 .

```
[root@UA-HA ~]# pcs resource move UAKVM2 UA-HA2
[root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 12:32:05 2015          Last change: Sat Oct 17
12:29:19 2015 by root via crm_attribute on UA-HA
Stack: corosync
Current DC: UA-HA (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured
```

```
Online: [ UA-HA UA-HA2 ]
```

```
Full list of resources:
```

```
Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA
  webvolfs   (ocf::heartbeat:Filesystem):   Started UA-HA
  ClusterIP  (ocf::heartbeat:IPaddr2):      Started UA-HA
  webres     (ocf::heartbeat:apache):       Started UA-HA
Resource Group: UAKVM2
```

UAKVM2\_res (ocf::heartbeat:VirtualDomain): Started UA-HA2

PCSD Status:  
UA-HA: Online  
UA-HA2: Online

Daemon Status:  
corosync: active/enabled  
pacemaker: active/enabled  
pcsd: active/enabled  
[root@UA-HA ~]#

“UA-HA2”

/

?

1.

```
[root@UA-HA log]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 16:53:02 2015      Last change: Sat Oct 17
16:52:21 2015 by root via crm_resource on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured
```

Online: [ UA-HA UA-HA2 ]

Full list of resources:

```
Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):      Started UA-HA2
  webvolfs   (ocf::heartbeat:Filesystem):      Started UA-HA2
  ClusterIP  (ocf::heartbeat:IPaddr2):         Started UA-HA2
  webres     (ocf::heartbeat:apache):          Started UA-HA2
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA
```

PCSD Status:  
UA-HA: Online  
UA-HA2: Online

Daemon Status:  
corosync: active/enabled  
pacemaker: active/enabled  
pcsd: active/enabled  
[root@UA-HA log]#

- 2. UA-HA "UAKVM2"
- UA-HA
- 3. UA-HA . UA-HA

```
[root@UA-HA log]# pcs cluster stop
Stopping Cluster (pacemaker)... Stopping Cluster (corosync)...
[root@UA-HA log]# pcs status
Error: cluster is not currently running on this node
[root@UA-HA log]#
```

pcsd UA-HA UA-HA2

```
[root@UA-HA log]# ssh UA-HA2 pcs status
Cluster name: UABLR
Last updated: Sun Jan 10 12:13:52 2016 Last change: Sun Jan 10
12:05:47 2016 by root via crm_resource on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA2 ]
OFFLINE: [ UA-HA ]

Full list of resources:

Resource Group: WEBRG1
  vgres (ocf::heartbeat:LVM): Started UA-HA2
  webvolfs (ocf::heartbeat:Filesystem): Started UA-HA2
  ClusterIP (ocf::heartbeat:IPaddr2): Started UA-HA2
  webres (ocf::heartbeat:apache): Started UA-HA2
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA2

PCSD Status:
  UA-HA: Online
  UA-HA2: Online

Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA log]#
```

```

"UAKVM2"           UA-HA2           . UA-HA
  ?

```

```

[root@UA-HA log]# pcs cluster start
Starting Cluster...
[root@UA-HA log]# pcs constraint
Location Constraints:
Ordering Constraints:
Colocation Constraints:
[root@UA-HA log]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 17:03:45 2015           Last change: Sun Jan 10
12:05:47 2016 by root via crm_resource on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Full list of resources:

Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA2
  webvolfs   (ocf::heartbeat:Filesystem):      Started UA-HA2
  ClusterIP  (ocf::heartbeat:IPaddr2):         Started UA-HA2
  webres     (ocf::heartbeat:apache):          Started UA-HA2
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain):    Started UA-HA

PCSD Status:
  UA-HA: Online
  UA-HA2: Online

Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA log]#

```

```

UAKVM2           UA-HA           .
,

```

1. "BAN" .

```

[root@UA-HA log]# pcs resource ban UAKVM2 UA-HA
Warning: Creating location constraint cli-ban-UAKVM2-on-UA-HA with a score

```

of -INFINITY for resource UAKVM2 on node UA-HA.  
This will prevent UAKVM2 from running on UA-HA until the constraint is removed. This will be the case even if UA-HA is the last node in the cluster.

2.

```
[root@UA-HA log]# pcs status
Cluster name: UABLR
Last updated: Sat Oct 17 17:18:25 2015          Last change: Sat Oct 17
17:17:48 2015 by root via crm_resource on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Full list of resources:

Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):      Started UA-HA2
  webvolfs   (ocf::heartbeat:Filesystem):        Started UA-HA2
  ClusterIP  (ocf::heartbeat:IPaddr2):           Started UA-HA2
  webres     (ocf::heartbeat:apache):           Started UA-HA2
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain):    Started UA-HA2

PCSD Status:
  UA-HA: Online
  UA-HA2: Online

Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA log]#
```

3.

```
[root@UA-HA log]# pcs constraint
Location Constraints:
  Resource: UAKVM2
    Disabled on: UA-HA (score:-INFINITY) (role: Started)
Ordering Constraints:
Colocation Constraints:
```

- 4. . ( ).
  - 5. .
  - 6. .
- : ( )

Pacemaker가  
Pacemaker 가

```
1. [root@UA-HA ~]# pcs property set maintenance-mode=true
```

```
2. [root@UA-HA ~]# pcs property list
Cluster Properties:
cluster-infrastructure: corosync
cluster-name: UABLR
dc-version: 1.1.13-10.el7-44eb2dd
have-watchdog: false
last-lrm-refresh: 1452507397
maintenance-mode: true
stonith-enabled: false
```

```
3. [root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sun Oct 18 12:19:33 2015 Last change: Sun Oct 18 12:19:27 2015
by root via cibadmin on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Full list of resources:

Resource Group: WEBRG1
vgres (ocf::heartbeat:LVM): Started UA-HA2 (unmanaged)
webvolfs (ocf::heartbeat:Filesystem): Started UA-HA2 (unmanaged)
```

```
ClusterIP (ocf::heartbeat:IPaddr2): Started UA-HA2 (unmanaged)
webres (ocf::heartbeat:apache): Started UA-HA2 (unmanaged)
Resource Group: UAKVM2
UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA (unmanaged)
```

```
PCSD Status:
UA-HA: Online
UA-HA2: Online
```

```
Daemon Status:
corosync: active/enabled
pacemaker: active/enabled
pcsd: active/enabled
[root@UA-HA ~]#
```

4.

```
[root@UA-HA ~]# pcs cluster stop --all
UA-HA: Stopping Cluster (pacemaker)...
UA-HA2: Stopping Cluster (pacemaker)...
UA-HA2: Stopping Cluster (corosync)...
UA-HA: Stopping Cluster (corosync)...
[root@UA-HA ~]# virsh list
  Id      Name                State
-----
  55     UAKVM2              running

[root@UA-HA ~]#
```

5.

```
[root@UA-HA ~]# pcs cluster start --all
UA-HA2: Starting Cluster...
UA-HA: Starting Cluster...
[root@UA-HA ~]#
```

6. 가 Unmamaged & Online

Full list of resources:

```
Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):    Started UA-HA2 (unmanaged)
  webvolfs   (ocf::heartbeat:Filesystem): Started UA-HA2 (unmanaged)
  ClusterIP  (ocf::heartbeat:IPaddr2): Started UA-HA2 (unmanaged)
```

```
webres      (ocf::heartbeat:apache):      Started UA-HA2 (unmanaged)
Resource Group: UAKVM2
UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA (unmanaged)
```

7.

```
[root@UA-HA ~]# pcs property set maintenance-mode=flase
```

```
[root@UA-HA ~]# pcs property unset maintenance-mode
```

8.

```
[root@UA-HA ~]# pcs status
Cluster name: UABLR
Last updated: Sun Oct 18 12:41:59 2015          Last change: Sun Oct 18
12:41:51 2015 by root via cibadmin on UA-HA
Stack: corosync
Current DC: UA-HA2 (version 1.1.13-10.el7-44eb2dd) - partition with quorum
2 nodes and 5 resources configured

Online: [ UA-HA UA-HA2 ]

Full list of resources:

Resource Group: WEBRG1
  vgres      (ocf::heartbeat:LVM):      Started UA-HA2
  webvolfs   (ocf::heartbeat:Filesystem):      Started UA-HA2
  ClusterIP  (ocf::heartbeat:IPaddr2):        Started UA-HA2
  webres     (ocf::heartbeat:apache):          Started UA-HA2
Resource Group: UAKVM2
  UAKVM2_res (ocf::heartbeat:VirtualDomain): Started UA-HA

PCSD Status:
  UA-HA: Online
  UA-HA2: Online

Daemon Status:
  corosync: active/enabled
  pacemaker: active/enabled
  pcsd: active/enabled
[root@UA-HA ~]#
```

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