

## Configuring A High Availability Cluster (Heartbeat) On CentOS

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## Configuring A High Availability Cluster (Heartbeat) On CentOS

This guide shows how you can set up a two node, high-availability HTTP cluster with heartbeat on CentOS. Both nodes use the Apache web server to serve the same content.

### Pre-Configuration Requirements

- Assign hostname *node01* to primary node with IP address *172.16.4.80* to eth0.
- Assign hostname *node02* to slave node with IP address *172.16.4.81*.

Note: on node01

```
uname -n
```

must return *node01*.

On node02

```
uname -n
```

must return *node02*.

*172.16.4.82* is the virtual IP address that will be used for our Apache webserver (i.e., Apache will listen on that address).

### Configuration

1. Download and install the heartbeat package. In our case we are using CentOS so we will install heartbeat with yum:

```
yum install heartbeat
```

or download these packages:

```
heartbeat-2.08  
heartbeat-pils-2.08  
heartbeat-stonith-2.08
```

2. Now we have to configure heartbeat on our two node cluster. We will deal with three files. These are:

```
authkeys  
ha.cf  
haresources
```

3. Now moving to our configuration. But there is one more thing to do, that is to copy these files to the `/etc/ha.d` directory. In our case we copy these files as given below:

```
cp /usr/share/doc/heartbeat-2.1.2/authkeys /etc/ha.d/  
  
cp /usr/share/doc/heartbeat-2.1.2/ha.cf /etc/ha.d/  
  
cp /usr/share/doc/heartbeat-2.1.2/haresources /etc/ha.d/
```

4. Now let's start configuring heartbeat. First we will deal with the `authkeys` file, we will use authentication method 2 (sha1). For this we will make changes in the `authkeys` file as below.

```
vi /etc/ha.d/authkeys
```

Then add the following lines:

```
auth 2
2 sha1 test-ha
```

Change the permission of the *authkeys* file:

```
chmod 600 /etc/ha.d/authkeys
```

5. Moving to our second file (*ha.cf*) which is the most important. So edit the *ha.cf* file with *vi*:

```
vi /etc/ha.d/ha.cf
```

Add the following lines in the *ha.cf* file:

```
logfile /var/log/ha-log
logfacility local0
keepalive 2
deadtime 30
initdead 120
bcast eth0
udpport 694
auto_failback on
node node01
node node02
```

Note: *node01* and *node02* is the output generated by

```
uname -n
```

6. The final piece of work in our configuration is to edit the *haresources* file. This file contains the information about resources which we want to highly enable. In our case we want the webserver (*httpd*) highly available:

```
vi /etc/ha.d/haresources
```

Add the following line:

```
node01 172.16.4.82 httpd
```

7. Copy the */etc/ha.d/* directory from *node01* to *node02*:

```
scp -r /etc/ha.d/ root@node02:/etc/
```

8. As we want *httpd* highly enabled let's start configuring *httpd*:

```
vi /etc/httpd/conf/httpd.conf
```

Add this line in *httpd.conf*:

```
Listen 172.16.4.82:80
```

9. Copy the */etc/httpd/conf/httpd.conf* file to *node02*:

```
scp /etc/httpd/conf/httpd.conf root@node02:/etc/httpd/conf/
```

10. Create the file *index.html* on both nodes (*node01* & *node02*):

On *node01*:

```
echo "node01 apache test server" > /var/www/html/index.html
```

On *node02*:

```
echo "node02 apache test server" > /var/www/html/index.html
```

11. Now start heartbeat on the primary *node01* and slave *node02*:

```
/etc/init.d/heartbeat start
```

12. Open web-browser and type in the URL:

*http://172.16.4.82*

It will show *node01 apache test server*.

13. Now stop the heartbeat daemon on *node01*:

```
/etc/init.d/heartbeat stop
```

In your browser type in the URL *http://172.16.4.82* and press enter.

It will show *node02 apache test server*.

14. We don't need to create a virtual network interface and assign an IP address (*172.16.4.82*) to it. Heartbeat will do this for you, and start the service (*httpd*) itself. So don't worry about this.

Don't use the IP addresses `172.16.4.80` and `172.16.4.81` for services. These addresses are used by heartbeat for communication between `node01` and `node02`. When any of them will be used for services/resources, it will disturb heartbeat and will not work. Be carefull!!!