# Cluster Management Configuration Commands

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### 1.1.1   cluster address-pool

description

**cluster address-pool** *A.B.C.D mask*

**no cluster address-pool**

parameter

| parameter | parameterinstruction |
|-----------|----------------------|
| A.B.C.D | Network segment of the ip address pool. Valid value range: N/A. |
| mask | Network segment mask of the ip address pool. Valid value range: N/A. |

default

Default network segment is 192.166.0.0/255.255.0.0

instruction

This command is used to configure the inner ip address used for cluster management. When the ip address is used, it will not open to the outer user operation. When the cluster feature has not been enabled on the device, this command can be configured repeatedly, only the last configuration is valid. When the cluster feature has been enabled on the device, this command can not be configured repeadly. This command can only be configured on the switch.

Address number in the address pool should be greater than the number of cluster member.

example

The following example sets 192.167.0.0/255.255.0.0 as the cluster address pool:

switch_config#cluster address-pool 192.167.0.0 255.255.0.0

## 1.1.2    cluster mode

description

To configure the role that a switch plays in the cluster, use the cluster mode member command. Use the no form of this command to restore the default value.

**cluster mode member** | **commander** *cluster-name*

**no cluster mode**

parameter

| parameter | parameterinstruction |
|---|---|
| *cluster-name* | Cluster name. Valid value range: N/A. |

default

no cluster mode

instruction

cluster mode member configures switch to cluster candidate member；

cluster mode commander cluster-name configures switch to cluster command switch；

The no cluster mode should be operated when switching between candidate member and command switch.

command mode

global configuration mode

example

The following command configures switch to cluster candicate member：

switch_A_config #cluster mode member

The following command configures switch to cluster command switch：


switch_A_config #cluster mode commander campus

## 1.1.3　cluster commander-address

description

**cluster commander-address** *H.H.H* [name *name*]

**no cluster commander-address**

parameter

| parameter | parameterinstruction |
|-----------|---------------------|
| *H.H.H* | MAC address of the server. |
| *name* | Name of the cluster. Valid value range is from 1 to 31 characters. |

default

default

instruction

You do not need to enter this command from a standalone cluster member switch. The cluster command switch automatically provides its MAC address to cluster member switches when these switches join the cluster. The cluster member switch adds this information and other cluster information to its running configuration file. Use the no form of this global configuration command from the cluster member switch console port to remove the switch from a cluster only during debugging or recovery procedures.

### example

The following information is a portion of output of the show running-config command on a cluster member switch：

cluster commander-address 00e0.0f2b.626e name test_cluster

The following command separates the member switch from the cluster：

switch_A_config#no cluster commander-address

## 1.1.4 cluster member

### description

Use the cluster member command on the cluster command switch to add candidates to a cluster. Use the no form of the command to remove members from the cluster.

**cluster member** [*n*] **mac-address** *H.H.H* [**password** *enable-password*]

**no cluster member** id *n*

### parameter

| parameter | parameterinstruction |
|---|---|
| *n* | The number that identifies a cluster member. The range is 0 to 255. |
| *H.H.H* | MAC address of the cluster member switch in hexadecimal format. |
| *enable-password* | Enable password of the candidate switch. The password is not required if there is no password on the candidate switch. |

### default

no default value

### instruction

This command can only be executed on the commander switch. This command cannot be executed repeatedly.

### example

This example shows how to add a switch as member 3 with MAC address 00e0.0f2b.626d and the password key to a cluster.

switch_A_config#cluster member id 3 mac-address 00e0.0f2b.626d password key

The following example shows how to add a candidate switch with MAC address 00e0.0f2b.626e to a cluster:

switch_A_config#cluster member mac-address 00e0.0f2b.626e

## 1.1.5 cluster discovery hop-count

### description

**cluster discovery hop-count number**

**no cluster discovery hop-count**

### parameter

| parameter | parameterinstruction |
|-----------|---------------------|
| *number* | Number of hops from the cluster edge that the cluster command switch limits the discovery of candidates. The range is 1 to 7. |

### default

The hop count is set to 3.

### instruction

This command is available only on the cluster command switch. This command does not operate on cluster member switches.

If the hop count is set to 1, it disables extended discovery. The cluster command switch discovers only candidates that are one hop from the edge of the cluster. The edge of the cluster is the point between the last discovered cluster member switch and the first discovered candidate switch.

### example

This example shows how to set hop count limit to 4.

switch_A_config#cluster discovery hop-count 4

## 1.1.6 cluster hello-time

### description

**cluster hello-time** *interval*

**no cluster hello-time**

parameter

| parameter | description |
|---|---|
| interval | Duration in seconds of the hello timer. The range is 1 to 300 seconds. |

default

The default holdtime is 8 seconds.

instruction

Enter this command with the cluster timer global configuration command only on the cluster command switch. The cluster command switch propagates the values to all its cluster members so that the setting is consistent among all switches in the cluster.

example

This example shows how to change the interval timer and the duration on the cluster command switch.

switch_A_config#cluster hellotime 3

## 1.1.7 cluster hold-time

description

**cluster hold-time** *holdtime*

**no cluster hold-time**

parameter

| parameter | description |
|---|---|
| interval | Duration in seconds before a switch (either a command or cluster member switch) declares the other switch down. The range is 1 to 300 seconds. |

default

The default holdtime is 80 seconds.

instruction

Enter this command with the cluster timer global configuration command only on the cluster command switch. The cluster command switch propagates the values to all its cluster members so that the setting is consistent among all switches in the cluster.

The holdtime is typically set as a multiple of the interval timer (cluster timer). For example, it takes (holdtime-in-secs divided by the interval-in-secs) number of heartbeat messages to be missed in a row to declare a switch down.

example

This example shows how to change the interval timer and the duration on the cluster command switch.

switch_A_config#cluster holdtime 30

## 1.1.8    show cluster

description

**show cluster**

parameter

default

instruction

This command shows basic configuration information of the cluster feature. If this device is not among the cluster, the system will output error information; if this device is command switch, the system will display cluster name, total number of mumbers, inaccessible number of mumbers, backup group information, timer information and address pool; if the device is member, the system will display cluster member number, communication status and other information.

example

The display of the command switch is as follows：

switch_A#show cluster
Commander of cluster "zmz"
Total number of members:            2

Hello timer                           8
Hold timer                             80
Topologic discovery hops        3
Address pool net address         192.166.0.0
Address pool address mask        255.255.0.0
Member 1(mac 00e0.0f2b.626d) is up, hold time 76.780 second

The display of the cluster member is as follows：

switch_B#show cluster
Member 1 of cluster "zmz"
       Total number of members:            2
       Hello timer                      8
       Hold timer                        80
       Topologic discovery hops         3
       Address pool net address         192.166.0.0
       Address pool address mask         255.255.0.0
Commander mac 00e0.0f2b.6000 is up, hold time 79.880 second

When there is inaccessible mumber, the display of the command switch is as follows：

switch_A#show cluster
Commander of cluster "zmz"
       Total number of members:            2
       Hello timer                      8
       Hold timer                        80
       Topologic discovery hops         3
       Address pool net address         192.166.0.0
       Address pool address mask         255.255.0.0
Member 1(mac 00e0.0f2b.626d) is down

When there is inaccessible switch, the display of the command switch is as follows：

switch_B#show cluster
Member 1 of cluster "zmz"
       Total number of members:            2
       Hello timer                      8
       Hold timer                        80
       Topologic discovery hops         3
       Address pool net address         192.166.0.0
       Address pool address mask         255.255.0.0
Commander mac 00e0.0f2b.6000 is down

When configured cluster backup group, the display of the command switch is as follows：

cmdr_config#show cluster
Commander of cluster "zmz"
       Total number of members:                3
       Redundancy:                          Enabled
         Standby type:                 hsrp
         Standby Group:                 mytest

                    Standby Group Number:               1
                Hello timer                            8
                Hold timer                             80
                Topologic discovery hops               3
                Address pool net address               192.166.0.0
                Address pool address mask              255.255.0.0
Member 1(mac 00e0.0f50.806c) is up, hold time 76.750 second
Member 2(mac 00e0.0f2b.626d) is up, hold time 76.750 second

When configured cluster backup group, the display of the backup command switch is as follows：


bakup_config#**show cluster**
Member 2(Standby command switch) of cluster "zmz"
                Total number of members:               3
                Hello timer                            8
                Hold timer                             80
                Topologic discovery hops               3
                Address pool net address               192.166.0.0
                Address pool address mask              255.255.0.0
Commander mac 00e0.0f2b.6000 is up, hold time 74.210 second

## 1.1.9    show cluster candidate

### description

**show cluster candidates** [detail | mac-address *H.H.H*]

### parameter

| parameter | description |
|---|---|
| detail | Displays the detailed information of all candidate members. |
| mac-address *H.H.H* | Displays candidate member information of the specified mac address. |

### default

### instruction

This command is used to display candidate member information in the cluster. The displayable information include: member mac address, device name, up-link device, interface and so on. This command can only be executed on the command switch.

example

The example of command execution：

switch_A#show cluster candidates
ID MAC addr          Name      Device Type
256 00e0.0f2b.626d switch_B switch Local interface: f0/2(2), Uplink interface: f0/2(2), Uplink device id: 0 ,hops to edge: 1

The example of command execution when the MAC address is specified：

switch_A#show cluster candidates mac-address 00e0.0f2b.626d
Device 'switch_B' with mac address number 00e0.0f2b.626d
    Device type:                switch
    Upstream MAC address:    00e0.0f2b.6000 (Cluster Member 0)
    Local port:                f0/2      FEC number:
    Upstream port:             f0/2      FEC Number:
Hops from cluster edge: 1

The example of command execution when detail is specified：

switch_A#show cluster candidates detail
Device 'switch_B' with mac address number 00e0.0f2b.626d
Device type:               switch
Upstream MAC address:    00e0.0f2b.6000 (Cluster Member 0)
Local port:                f0/2      FEC number:
Upstream port:             f0/2      FEC Number:
Hops from cluster edge: 1

## 1.1.10   show cluster member

description

**show cluster member** [*n* | detail]

parameter

| parameter | parameterinstruction |
|-----------|----------------------|
| detail | Displays member's detailed information. |
| *n* | Displays member of the specified number. |

default

instruction

This command is used to display member information in the cluster. The displayable information include: MAC address of the mumber, name of machine, up-link equipment,

member status and so on. This command can only be executed on the command switch.

example

The example of command execution：

switch_A#show cluster member
ID MAC addr          Name      Device Type
0 00e0.0f2b.6000 switch_A switch
Device is commander
---------------------------------------------------------
1 00e0.0f2b.626d switch_B SWITCH
Local interface: f0/2(2), Uplink interface: f0/2(2), Uplink device id: 0 ,hops to cmdr: 1
---------------------------------------------------------

The example of command execution when member number is specified：

switch_A#show cluster member id 1
Device 'switch_B' with member number 1
       Device type:                SWITCH
       MAC address:                 00e0.0f2b.626d
       Upstream MAC address:     00e0.0f2b.6000 (Cluster Member 0)
       Local port:                f0/2      FEC number:
       Upstream port:                f0/2      FEC Number:
       Hops from command device: 1

The example of command execution when detail is specified：

switch_A#show cluster member detail
Device 'switch_A' with member number 0 (Command Switch)
       Device type:                SWITCH
       MAC address:                 00e0.0f2b.6000
       Upstream MAC address:
       Local port:                      FEC number:
       Upstream port:                  FEC Number:
       Hops from command device: 0
Device 'switch_B' with member number 1
       Device type:                SWITCH
       MAC address:                 00e0.0f2b.626d
       Upstream MAC address:     00e0.0f2b.6000 (Cluster Member 0)
       Local port:                f0/2      FEC number:
       Upstream port:                f0/2      FEC Number:
       Hops from command device: 1

## 1.1.11   show cluster topo

### description

**show cluster topo**

### parameter

### default

### instruction

This command is used to display topology information in the cluster. The displayable information include: MAC address of member, machine name, up-link equipment and interface, member status and so on. This command can only be executed on the switch.

### example

The example of command execution：

cmdr#show cluster topo
Total device number discoveried in session: 4
Total link number discoveried in session: 3
----------------------------------------------------------
ID MAC addr          Name      Device Type
258 00e0.0f46.606c sw1 SWITCH
Local interface: f0/7(7), Uplink interface: f0/24(24), Uplink device id: 1, hops to edge: 1
----------------------------------------------------------
256 00e0.0f28.006c sw3 SWITCH
Local interface: f0/2(2), Uplink interface: f0/18(18), Uplink device id: 0, hops to edge: 1
----------------------------------------------------------
0 00e0.0f2b.601b cmdr SWITCH
Device is commander
----------------------------------------------------------
1 00e0.0f50.8000 sw2 SWITCH
Local interface: f0/6(6), Uplink interface: f0/6(6), Uplink device id: 0, hops to cmdr: 1
----------------------------------------------------------

## 1.1.12    show cluster address pool

### description

**show cluster address pool**

### parameter

### default

### instruction

This command is used to display cluster address pool. This comman can only be operated on the switch.

### example

The example of command execution：

```
cmdr#show cluster address pool
    Address pool net address            192.166.0.0
    Address pool address mask            255.255.0.0
```