# Stack Manager and High Availability Commands


- main-cpu, on page 2
- mode sso, on page 3
- policy config-sync prc reload, on page 4
- redundancy, on page 5
- redundancy config-sync mismatched-commands, on page 6
- redundancy force-switchover, on page 8
- redundancy reload, on page 9
- reload, on page 10
- show redundancy, on page 11
- show redundancy config-sync, on page 15
- show switch, on page 17
- show switch stack-mode, on page 20
- stack-mac persistent timer, on page 21
- stack-mac update force, on page 23
- standby console enable, on page 24
- switch clear stack-mode, on page 25
- switch priority, on page 26
- switch provision, on page 27
- switch renumber, on page 29
- switch renumber, on page 30
- switch stack port, on page 31
- switch switch-number role, on page 32

# main-cpu

To enter the redundancy main configuration submode and enable the standby , use the **main-cpu** command in redundancy configuration mode.

**main-cpu**

## Syntax Description

This command has no arguments or keywords.

## Command Default

None

## Command Modes

Redundancy configuration (config-red)

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

From the redundancy main configuration submode, use the **standby console enable** command to enable the standby .

This example shows how to enter the redundancy main configuration submode and enable the standby :

```
Device(config)# redundancy
Device(config-red)# main-cpu
Device(config-r-mc)# standby console enable
Device#
```

# mode sso

To set the redundancy mode to stateful switchover (SSO), use the **mode sso** command in redundancy configuration mode.

**mode sso**

## Syntax Description

This command has no arguments or keywords.

## Command Default

None

## Command Modes

Redundancy configuration

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

The **mode sso** command can be entered only from within redundancy configuration mode.

Follow these guidelines when configuring your system to SSO mode:

- You must use identical Cisco IOS images on the to support SSO mode. Redundancy may not work due to differences between the Cisco IOS releases.
- If you perform an online insertion and removal (OIR) of the module, the switch resets during the stateful switchover and the port states are restarted only if the module is in a transient state (any state other than Ready).
- The forwarding information base (FIB) tables are cleared on a switchover. Routed traffic is interrupted until route tables reconverge.

This example shows how to set the redundancy mode to SSO:

```
Device(config)# redundancy
Device(config-red)# mode sso
Device(config-red)#
```

# policy config-sync prc reload

To reload the standby if a parser return code (PRC) failure occurs during configuration synchronization, use the **policy config-sync reload** command in redundancy configuration mode. To specify that the standby is not reloaded if a parser return code (PRC) failure occurs, use the **no** form of this command.

**policy config-sync** {**bulk** | **lbl**} **prc reload**
**no policy config-sync** {**bulk** | **lbl**} **prc reload**

## Syntax Description

| | |
|---|---|
| **bulk** | Specifies bulk configuration mode. |
| **lbl** | Specifies line-by-line (lbl) configuration mode. |

## Command Default

The command is enabled by default.

## Command Modes

Redundancy configuration (config-red)

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

This example shows how to specify that the standby is not reloaded if a parser return code (PRC) failure occurs during configuration synchronization:

```
Device(config-red)# no policy config-sync bulk prc reload
```

# redundancy

To enter redundancy configuration mode, use the **redundancy** command in global configuration mode.

**redundancy**

## Syntax Description

This command has no arguments or keywords.

## Command Default

None

## Command Modes

Global configuration (config)

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

The redundancy configuration mode is used to enter the main CPU submode, which is used to enable the standby .

To enter the main CPU submode, use the **main-cpu** command while in redundancy configuration mode.

From the main CPU submode, use the **standby console enable** command to enable the standby .

Use the **exit** command to exit redundancy configuration mode.

This example shows how to enter redundancy configuration mode:

```
(config)# redundancy
(config-red)#
```

This example shows how to enter the main CPU submode:

```
(config)# redundancy
(config-red)# main-cpu
(config-r-mc)#
```

## Related Commands

| Command | Description |
|---|---|
| **show redundancy** | Displays redundancy facility information. |

# redundancy config-sync mismatched-commands

To allow the standby switch to join the stack if a configuration mismatch occurs between the active and standby switches, use the **redundancy config-sync mismatched-commands** command in privileged EXEC mode.

**redundancy config-sync** {**ignore** | **validate**} **mismatched-commands**

## Syntax Description

| | |
|---|---|
| **ignore** | Ignores the mismatched command list. |
| **validate** | Revalidates the mismatched command list with the modified running-configuration. |

## Command Default

None

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

If the command syntax check in the running configuration of the active switch fails while the standby switch is booting, use the **redundancy config-sync mismatched-commands** command to display the Mismatched Command List (MCL) on the active switch and to reboot the standby switch.

The following is a log entry example for mismatched commands:

```
00:06:31: Config Sync: Bulk-sync failure due to Servicing Incompatibility. Please check
full list of mismatched commands via:
show redundancy config-sync failures mcl
00:06:31: Config Sync: Starting lines from MCL file:
interface GigabitEthernet7/7
! <submode> "interface"
- ip address 192.0.2.0 255.255.255.0
! </submode> "interface"
```

To display all mismatched commands, use the **show redundancy config-sync failures mcl** command.

To clean the MCL, follow these steps:

1. Remove all mismatched commands from the running configuration of the active switch.
2. Revalidate the MCL with a modified running configuration by using the **redundancy config-sync validate mismatched-commands** command.
3. Reload the standby switch.

You can ignore the MCL by doing the following:

1. Enter the **redundancy config-sync ignore mismatched-commands** command.
2. Reload the standby switch; the system changes to SSO mode.

**Note** If you ignore the mismatched commands, the out-of-sync configuration at the active switch and the standby switch still exists.

**3.** Verify the ignored MCL with the **show redundancy config-sync ignored mcl** command.

If SSO mode cannot be established between the active and standby switches because of an incompatibility in the configuration file, a mismatched command list (MCL) is generated at the active switch and a reload into route processor redundancy (RPR) mode is forced for the standby switch.

This example shows how to revalidate the mismatched command list with the modified configuration:

```
# redundancy config-sync validate mismatched-commands
#
```

# redundancy force-switchover

To force a switchover from the active switch to the standby switch, use the **redundancy force-switchover** command in privileged EXEC mode.

**redundancy force-switchover**

## Syntax Description

This command has no arguments or keywords.

## Command Default

None

## Command Modes

Privileged EXEC (#)

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

Use the **redundancy force-switchover** command to manually switch over to the redundant switch. The redundant switch becomes the new active switch that runs the Cisco IOS XE image, and the modules are reset to their default settings. The old active switch reboots with the new image.

If you use the **redundancy force-switchover** command on the active switch, the switchports on the active switch go down.

If you use this command on a switch that is in a partial ring stack, the following warning message appears:

```
Device# redundancy force-switchover

Stack is in Half ring setup; Reloading a switch might cause stack split
This will reload the active unit and force switchover to standby[confirm]
```

This example shows how to manually switch over from the active to the standby supervisor engine:

```
Device# redundancy force-switchover
Device#
```

# redundancy reload

To force a reload of one or all of the switches in the stack, use the **redundancy reload** command in privileged EXEC mode.

**redundancy reload** {**peer** | **shelf**}

## Syntax Description

| | |
|---|---|
| **peer** | Reloads the peer unit. |
| **shelf** | Reboots all switches in the stack. |

## Command Default

None

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

Before using this command, see the "Performing a Software Upgrade" section of the  for additional information.

Use the **redundancy reload shelf** command to reboot all the switches in the stack.

This example shows how to manually reload all switches in the stack:

```
# redundancy reload shelf
#
```

# reload

To reload the and to apply a configuration change, use the **reload** command in privileged EXEC mode.

**reload** [**/noverify** | **/verify**] [*LINE* | **at** | **cancel** | **in**]

## Syntax Description

| | |
|---|---|
| **/noverify** | (Optional) Specifies to not verify the file signature before the reload. |
| **/verify** | (Optional) Verifies the file signature before the reload. |
| *LINE* | (Optional) Reason for the reload. |
| **at** | (Optional) Specifies the time in hh:mm for the reload to occur. |
| **cancel** | (Optional) Cancels the pending reload. |
| **in** | (Optional) Specifies a time interval for reloads to occur. |

## Command Default

Immediately reloads the and puts a configuration change into effect.

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

# show redundancy

To display redundancy facility information, use the **show redundancy** command in privileged EXEC mode

**show redundancy** [**clients** | **config-sync** | **counters** | **history** [**reload** | **reverse**] | {**clients** | **counters**} | **states** | **switchover history** [**domain default**]]

## Syntax Description

| | |
|---|---|
| **clients** | (Optional) Displays information about the redundancy facility client. |
| **config-sync** | (Optional) Displays a configuration synchronization failure or the ignored mismatched command list (MCL). |
| **counters** | (Optional) Displays information about the redundancy facility counter. |
| **history** | (Optional) Displays a log of past status and related information for the redundancy facility. |
| **history reload** | (Optional) Displays a log of past reload information for the redundancy facility. |
| **history reverse** | (Optional) Displays a reverse log of past status and related information for the redundancy facility. |
| **clients** | Displays all redundancy facility clients in the specified secondary switch. |
| **counters** | Displays all counters in the specified standby switch. |
| **states** | (Optional) Displays information about the redundancy facility state, such as disabled, initialization, standby or active. |
| **switchover history** | (Optional) Displays information about the redundancy facility switchover history. |
| **domain default** | (Optional) Displays the default domain as the domain to display switchover history for. |

## Command Default

None

## Command Modes

Privileged EXEC (#)

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

This example shows how to display information about the redundancy facility:

```
Device# show redundancy

Redundant System Information :
------------------------------
       Available system uptime = 1 hour, 25 minutes
Switchovers system experienced = 0
              Standby failures = 0
        Last switchover reason = not known
```

```
                Hardware Mode = Duplex
    Configured Redundancy Mode = SSO
     Operating Redundancy Mode = SSO
              Maintenance Mode = Disabled
                Communications = Up

Current Processor Information :
-------------------------------
               Active Location = slot 1
        Current Software state = ACTIVE
       Uptime in current state = 1 hour, 25 minutes
                 Image Version = Cisco IOS Software, Catalyst L3 Switch Software
(CAT9K_LITE_IOSXE), Version 16.9.x
Copyright (c) 1986-2018 by Cisco Systems, Inc.
Compiled Sat 29-S
        Configuration register = 0x102

Peer Processor Information :
-----------------------------
              Standby Location = slot 3
        Current Software state = STANDBY HOT
       Uptime in current state = 1 hour, 22 minutes
                 Image Version = Cisco IOS Software, Catalyst L3 Switch Software
(CAT9K_LITE_IOSXE), Version 16.9.x
Copyright (c) 1986-2018 by Cisco Systems, Inc.
Compiled Sat 29-S
        Configuration register = 0x102

Device#
```

This example shows how to display redundancy facility client information:

```
Device# show redundancy clients

Group ID =     1
     clientID = 29       clientSeq = 60       Redundancy Mode RF
     clientID = 139      clientSeq = 62       IfIndex
     clientID = 25       clientSeq = 71       CHKPT RF
     clientID = 10001    clientSeq = 85       QEMU Platform RF
     clientID = 77       clientSeq = 87       Event Manager
     clientID = 1340     clientSeq = 104      RP Platform RF
     clientID = 1501     clientSeq = 105      CWAN HA
     clientID = 78       clientSeq = 109      TSPTUN HA
     clientID = 305      clientSeq = 110      Multicast ISSU Consolidation RF
     clientID = 304      clientSeq = 111      IP multicast RF Client
     clientID = 22       clientSeq = 112      Network RF Client
     clientID = 88       clientSeq = 113      HSRP
     clientID = 114      clientSeq = 114      GLBP
     clientID = 225      clientSeq = 115      VRRP
     clientID = 4700     clientSeq = 118      COND_DEBUG RF
     clientID = 1341     clientSeq = 119      IOSXE DPIDX
     clientID = 1505     clientSeq = 120      IOSXE SPA TSM
     clientID = 75       clientSeq = 130      Tableid HA
     clientID = 501      clientSeq = 137      LAN-Switch VTP VLAN

<output truncated>
```

The output displays the following information:

- clientID displays the client's ID number.
- clientSeq displays the client's notification sequence number.
- Current redundancy facility state.

This example shows how to display the redundancy facility counter information:

```
Device# show redundancy counters

Redundancy Facility OMs
              comm link up = 0
            comm link down = 0

          invalid client tx = 0
          null tx by client = 0
               tx failures = 0
      tx msg length invalid = 0

      client not rxing msgs = 0
 rx peer msg routing errors = 0
           null peer msg rx = 0
         errored peer msg rx = 0

                 buffers tx = 135884
     tx buffers unavailable = 0
                 buffers rx = 135109
      buffer release errors = 0

 duplicate client registers = 0
  failed to register client = 0
       Invalid client syncs = 0

Device#
```

This example shows how to display redundancy facility history information:

```
Device# show redundancy history

00:00:04 client added: Redundancy Mode RF(29) seq=60
00:00:04 client added: IfIndex(139) seq=62
00:00:04 client added: CHKPT RF(25) seq=71
00:00:04 client added: QEMU Platform RF(10001) seq=85
00:00:04 client added: Event Manager(77) seq=87
00:00:04 client added: RP Platform RF(1340) seq=104
00:00:04 client added: CWAN HA(1501) seq=105
00:00:04 client added: Network RF Client(22) seq=112
00:00:04 client added: IOSXE SPA TSM(1505) seq=120
00:00:04 client added: LAN-Switch VTP VLAN(501) seq=137
00:00:04 client added: XDR RRP RF Client(71) seq=139
00:00:04 client added: CEF RRP RF Client(24) seq=140
00:00:04 client added: MFIB RRP RF Client(306) seq=150
00:00:04 client added: RFS RF(520) seq=163
00:00:04 client added: klib(33014) seq=167
00:00:04 client added: Config Sync RF client(5) seq=168
00:00:04 client added: NGWC FEC Rf client(10007) seq=173
00:00:04 client added: LAN-Switch Port Manager(502) seq=190
00:00:04 client added: Access Tunnel(530) seq=192
00:00:04 client added: Mac address Table Manager(519) seq=193
00:00:04 client added: DHCPC(100) seq=238
00:00:04 client added: DHCPD(101) seq=239
00:00:04 client added: SNMP RF Client(34) seq=251
00:00:04 client added: CWAN APS HA RF Client(1502) seq=252
00:00:04 client added: History RF Client(35) seq=261

<output truncated>
```

This example shows how to display information about the redundancy facility state:

```
Device# show redundancy states

       my state = 13 -ACTIVE
     peer state = 8  -STANDBY HOT
           Mode = Duplex
           Unit = Primary
        Unit ID = 5

Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
     Maintenance Mode = Disabled
    Manual Swact = enabled
 Communications = Up

   client count = 115
 client_notification_TMR = 30000 milliseconds
           RF debug mask = 0x0

Device#
```

# show redundancy config-sync

To display a configuration synchronization failure or the ignored mismatched command list (MCL), if any, use the **show redundancy config-sync** command in EXEC mode.

**show redundancy config-sync** {**failures** {**bem** | **mcl** | **prc**} | **ignored failures mcl**}

## Syntax Description

| | |
|---|---|
| **failures** | Displays MCL entries or best effort method (BEM)/Parser Return Code (PRC) failures. |
| **bem** | Displays a BEM failed command list, and forces the standby to reboot. |
| **mcl** | Displays commands that exist in the switch's running configuration but are not supported by the image on the standby , and forces the standby to reboot. |
| **prc** | Displays a PRC failed command list and forces the standby to reboot. |
| **ignored failures mcl** | Displays the ignored MCL failures. |

## Command Default

None

## Command Modes

User EXEC

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

When two versions of Cisco IOS images are involved, the command sets supported by two images might differ. If any of those mismatched commands are executed on the active , the standby might not recognize those commands, which causes a configuration mismatch condition. If the syntax check for the command fails on the standby during a bulk synchronization, the command is moved into the MCL and the standby is reset. To display all the mismatched commands, use the **show redundancy config-sync failures mcl** command.

To clean the MCL, follow these steps:

1. Remove all mismatched commands from the active 's running configuration.
2. Revalidate the MCL with a modified running configuration by using the **redundancy config-sync validate mismatched-commands** command.
3. Reload the standby .

Alternatively, you could ignore the MCL by following these steps:

1. Enter the **redundancy config-sync ignore mismatched-commands** command.
2. Reload the standby ; the system transitions to SSO mode.

**Note** If you ignore the mismatched commands, the out-of-synchronization configuration on the active and the standby still exists.

**3.** You can verify the ignored MCL with the **show redundancy config-sync ignored mcl** command.

Each command sets a return code in the action function that implements the command. This return code indicates whether or not the command successfully executes. The active maintains the PRC after executing a command. The standby executes the command and sends the PRC back to the active . A PRC failure occurs if these two PRCs do not match. If a PRC error occurs at the standby either during bulk synchronization or line-by-line (LBL) synchronization, the standby is reset. To display all PRC failures, use the **show redundancy config-sync failures prc** command.

To display best effort method (BEM) errors, use the **show redundancy config-sync failures bem** command.

This example shows how to display the BEM failures:

```
Device> show redundancy config-sync failures bem
BEM Failed Command List
-----------------------

 The list is Empty
```

This example shows how to display the MCL failures:

```
Device> show redundancy config-sync failures mcl
Mismatched Command List
-----------------------

The list is Empty
```

This example shows how to display the PRC failures:

```
Device# show redundancy config-sync failures prc
PRC Failed Command List
-----------------------

 The list is Empty
```

# show switch

To display information that is related to the stack member or the switch stack, use the **show switch** command in EXEC mode.

**Command Default**

None

**Command Modes**

User EXEC

Privileged EXEC

**Command History**

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |
| Cisco IOS XE Amsterdam 17.3.1 | Added the keyword **detail** to the command – **show switch stack-ports detail** |

**Examples**

This example shows how to display the member 6 summary information:

```
Device# show switch 6
Switch#  Role      Mac Address     Priority     State
-----------------------------------------------------------
 6       Member     0003.e31a.1e00     1          Ready
```

This example shows how to display the neighbor information for a stack:

```
Device# show switch neighbors
  Switch #    Port A       Port B
  --------    ------       ------
      6         None          8
      8          6           None
```

This example shows how to display stack-port information:

```
Device# show switch stack-ports
  Switch #    Port A       Port B
  --------    ------       ------
    6          Down          Ok
    8           Ok          Down
```

This is an example output from the **show switch stack-ports detail** command.

```
Device# show switch stack-ports detail
1/1 is OK Loopback No
Cable Length 50cm     Neighbor 2
Link Ok Yes Sync Ok Yes Link Active Yes
Changes to LinkOK 1
 Five minute input rate 430998 packets/sec
 Five minute output rate 100989 packets/sec
     2198108 packets input, 17584864 bytes
     553113 packets output, 4424904 bytes
 CRC Errors
            Data CRC 0
        Ringword CRC 0
        InvRingWord  0
```

```
         PcsCodeWord 0
1/2 is OK Loopback No
Cable Length 50cm     Neighbor 3
Link Ok Yes Sync Ok Yes Link Active Yes
Changes to LinkOK 1
 Five minute input rate 743042 packets/sec
 Five minute output rate 79830 packets/sec
     3765816 packets input, 30126528 bytes
     439001 packets output, 3512008 bytes
 CRC Errors
            Data CRC 0
        Ringword CRC 0
        InvRingWord  0
         PcsCodeWord 0
…..
….
…
….
```

***Table 1: show switch stack-ports detail Command Output***

| Field | Description |
|---|---|
| Neighbor | Switch number of the active member at the other end of the stack cable. |
| Cable Length | Valid lengths are 50 cm, 1 m, or 3 m.<br>If the switch cannot detect the cable length, the value is *Unknown*. The cable might not be connected, or the link might be unreliable. |
| Link OK | Whether the stack cable is connected and functional. There may or may not be a neighbor connected on the other end.<br>The *link partner* is a stack port on a neighbor switch.<br>• No: There is no stack cable connected to this port or the stack cable is not functional.<br>• Yes: There is a functional stack cable connected to this port. |
| Link Active | Whether a neighbor is connected on the other end of the stack cable.<br>• No: No neighbor is detected on the other end. The port cannot send traffic over this link.<br>• Yes: A neighbor is detected on the other end. The port can send traffic over this link. |
| Sync OK | Whether the link partner sends valid protocol messages to the stack port.<br>• No: The link partner does not send valid protocol messages to the stack port.<br>• Yes: The link partner sends valid protocol messages to the port. |
| # Changes to LinkOK | The relative stability of the link.<br>If a large number of changes occur in a short period of time, link flapping can occur. |

| Field | Description |
|---|---|
| Five minute input rate | The average rate (calculated over a five minute period) at which packets are received, measured in packets/sec. |
| Five minute output rate | The average rate (calculated over a five minute period) at which packets are transmitted, measured in packets/sec. |
| CRC Errors | Different types of Cyclic Redundancy Check (CRC) errors that are seen on a stack interface:<br>• **Data CRC**: Stack interface data CRC error<br>• **Ringword CRC**: Stack interface ring word CRC error<br>• **InvRingWord**: Stack interface invalid ring word error<br>• **PcsCodeWord**: Stack interface Physical Coding Sublayer (PCS) error<br>These errors normally occur when a stack interface state changes due to a switchover or a switch reload. You can ignore such errors.<br>But when these error counters increase significantly or when they increase continuously over a period of time, check the stack cable for issues.<br>Use the **clear counters** command to clear the stack counters for all ports. |

# show switch stack-mode

To display and verify the current stack mode on a device, use the **show switch stack-mode** command in priviledged EXEC mode.

**show switch stack-mode**

**Command Default**

None

**Command Modes**

priviledged EXEC

**Command History**

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.1 | This command was introduced. |

**Usage Guidelines**

The **show switch stack-mode** command displays detailed status of the currently running stack mode. Fields dispalyed for each one of the devices in the stack include: the role of the device, its MAC address, the stack mode after reboot, the current stack mode, and so on.

```
Device# show switch stack-mode
Switch   Role    Mac Address    Version   Mode    Configured   State
------------------------------------------------------------
1       Member 3c5e.c357.c880             1+1'     Active'     Ready
*2      Active 547c.69de.cd00    V05      1+1'     Standby'    Ready
3       Member 547c.6965.cf80    V05      1+1'     Member'     Ready
```

The Mode field indicates the current stack mode

The Configured field refers to the device state expected after a reboot.

Single quotation marks ( ' ) indicate that the stack mode has been changed.

# stack-mac persistent timer

To enable the persistent MAC address feature, use the **stack-mac persistent timer** command in global configuration mode on the switch stack or on a standalone switch. To disable the persistent MAC address feature, use the **no** form of this command.

**stack-mac persistent timer** [**0***time-value*]
**no stack-mac persistent timer**

## Syntax Description

| | |
|---|---|
| **0** | (Optional) Continues using the MAC address of the current stack's active switch after a new stack's active switch takes over. |
| *time-value* | (Optional) Time period in minutes before the stack MAC address changes to that of the new active. The range is 1 to 60 minutes. |

## Command Default

Persistent MAC address is disabled. The MAC address of the stack is always that of the first active switch.

## Command Modes

Global configuration

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

By default, the stack MAC address will always be the MAC address of the first active switch, even if a new active switch takes over. The same behavior occurs when you enter the **stack-mac persistent timer** command or the **stack-mac persistent timer 0** command.

**Note** To avoid PAgP flaps, the stack MAC persistent wait timer should be configured as indefinite using the **stack-mac persistent timer 0** .

When you enter the **stack-mac persistent timer** command with a *time-value*, the stack MAC address will change to that of the new active switch after the period of time that you entered whenever a new switch becomes the active switch. If the previous active switch rejoins the stack during that time period, the stack retains its MAC address for as long as the switch that has that MAC address is in the stack.

If the whole stack reloads the MAC address of the active switch is the stack MAC address.

**Note** If you do not change the stack MAC address, Layer 3 interface flapping does not occur. This also means that a foreign MAC address (a MAC address that does not belong to any of the switches in the stack) could be the stack MAC address. If the switch with this foreign MAC address joins another stack as the active switch, two stacks will have the same stack MAC address. You must use the **stack-mac update force** command to resolve the conflict.

## Examples

This example shows how to enable a persistent MAC address:

```
Device(config)# stack-mac persistent timer
```

You can verify your settings by entering the **show running-config** privileged EXEC command. If enabled, **stack-mac persistent timer** is shown in the output.

# stack-mac update force

To update the stack MAC address to the MAC address of the active switch, use the **stack-mac update force** command in EXEC mode on the active switch.

**stack-mac update force**

## Syntax Description

This command has no arguments or keywords.

## Command Default

None

## Command Modes

User EXEC

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

By default, the stack MAC address is not changed to the MAC address of the new active switch during a high availability (HA) failover. Use the **stack-mac update force** command to force the stack MAC address to change to the MAC address of the new active switch.

If the switch with the same MAC address as the stack MAC address is currently a member of the stack, the **stack-mac update force** command has no effect. (It does not change the stack MAC address to the MAC address of the active switch.)

**Note** If you do not change the stack MAC address, Layer 3 interface flapping does not occur. It also means that a foreign MAC address (a MAC address that does not belong to any of the switches in the stack) could be the stack MAC address. If the switch with this foreign MAC address joins another stack as the active switch, two stacks will have the same stack MAC address. You must use the **stack-mac update force** command to resolve the conflict.

This example shows how to update the stack MAC address to the MAC address of the active switch:

```
> stack-mac update force
>
```

You can verify your settings by entering the **show switch** privileged EXEC command. The stack MAC address includes whether the MAC address is local or foreign.

# standby console enable

To enable access to the standby console , use the **standby console enable** command in redundancy main configuration submode. To disable access to the standby console , use the **no** form of this command.

**standby console enable**
**no standby console enable**

## Syntax Description

This command has no arguments or keywords.

## Command Default

Access to the standby console is disabled.

## Command Modes

Redundancy main configuration submode

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

This command is used to collect and review specific data about the standby console. The command is useful primarily for Cisco technical support representatives troubleshooting the .

This example shows how to enter the redundancy main configuration submode and enable access to the standby console :

```
Device(config)# redundancy
Device(config-red)# main-cpu
Device(config-r-mc)# standby console enable
Device(config-r-mc)#
```

# switch clear stack-mode

To change the stack mode to N+1 and remove the active and standby assignemnets of the 1:1 mode, use the **switch clear stack-mode** command in priviledged EXEC mode.

**switch clear stack-mode**

**Command Default**

None

**Command Modes**

priviledged EXEC

**Command History**

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.1 | This command was introduced. |

**Usage Guidelines**

Use this command to disable the 1:1 redundancy mode and set the stack to N+1 mode.

```
Device> enable
Device# switch clear stack-mode
WARNING: Clearing the chassis HA configuration will result in the chassis coming up in Stand
 Alone mode after reboot.The HA configuration will remain the same on other chassis. Do you
 wish to continue? [y/n]? [yes]:
```

# switch priority

To change the stack member priority value, use the **switch priority** command in mode on the .

**switch** *stack-member-number* **priority** *new-priority-value*

## Syntax Description

| | |
|---|---|
| *stack-member-number* | |
| *new-priority-value* | New stack member priority value. The range is 1 to 15. |

## Command Default

The default priority value is 1.

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

The new priority value is a factor when a new  is elected. When you change the priority value the  is not changed immediately.

## Examples

This example shows how to change the priority value of stack member 6 to 8:

```
 switch 6 priority 8
Changing the Switch Priority of Switch Number 6 to 8
Do you want to continue?[confirm]
```

# switch provision

To supply a configuration to a new switch before it joins the switch stack, use the **switch provision** command in global configuration mode on the . To delete all configuration information that is associated with the removed switch (a stack member that has left the stack), use the **no** form of this command.

**switch** *stack-member-number* **provision** *type*
**no switch** *stack-member-number* **provision**

## Syntax Description

| | |
|---|---|
| *stack-member-number* | |
| *type* | Switch type of the new switch before it joins the stack. |

## Command Default

The switch is not provisioned.

## Command Modes

Global configuration

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

For *type*, enter the model number of a supported switch that is listed in the command-line help strings.

To avoid receiving an error message, you must remove the specified switch from the switch stack before using the **no** form of this command to delete a provisioned configuration.

To change the switch type, you must also remove the specified switch from the switch stack. You can change the stack member number of a provisioned switch that is physically present in the switch stack if you do not also change the switch type.

If the switch type of the provisioned switch does not match the switch type in the provisioned configuration on the stack, the switch stack applies the default configuration to the provisioned switch and adds it to the stack. The switch stack displays a message when it applies the default configuration.

Provisioned information appears in the running configuration of the switch stack. When you enter the **copy running-config startup-config** privileged EXEC command, the provisioned configuration is saved in the startup configuration file of the switch stack.

**Caution** When you use the **switch provision** command, memory is allocated for the provisioned configuration. When a new switch type is configured, the previously allocated memory is not fully released. Therefore, do not use this command more than approximately 200 times, or the switch will run out of memory and unexpected behavior will result.

## Examples

This example shows how to provision a switch with a stack member number of 2 for the switch stack. The **show running-config** command output shows the interfaces associated with the provisioned switch.

```
(config)# switch 2 provision WS-xxxx
(config)# end
```

```
# show running-config | include switch 2
!
interface GigabitEthernet2/0/1
!
interface GigabitEthernet2/0/2
!
interface GigabitEthernet2/0/3
<output truncated>
```

You also can enter the **show switch** user EXEC command to display the provisioning status of the switch stack.

This example shows how to delete all configuration information about stack member 5 when the switch is removed from the stack:

```
(config)# no switch 5 provision
```

You can verify that the provisioned switch is added to or removed from the running configuration by entering the **show running-config** privileged EXEC command.

# switch renumber

To change the stack member number, use the **switch renumber** command in mode on the .

**switch** *current-stack-member-number* **renumber** *new-stack-member-number*

**Syntax Description**

| |
|---|
| *current-stack-member-number* |
| *new-stack-member-number* |

**Command Default**

The default stack member number is 1.

**Command History**

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

**Usage Guidelines**

If another stack member is already using the member number that you just specified, the  assigns the lowest available number when you reload the stack member.

**Note** If you change the number of a stack member, and no configuration is associated with the new stack member number, that stack member loses its current configuration and resets to its default configuration.

Do not use the **switch** *current-stack-member-number* **renumber** *new-stack-member-number* command on a provisioned switch. If you do, the command is rejected.

Use the **reload slot** *current stack member number* privileged EXEC command to reload the stack member and to apply this configuration change.

**Examples**

This example shows how to change the member number of stack member 6 to 7:

# switch renumber

To change the stack member number, use the **switch renumber** command in mode on the .

**switch** *current-stack-member-number* **renumber** *new-stack-member-number*

## Syntax Description

| |
|---|
| *current-stack-member-number* |
| *new-stack-member-number* |

## Command Default

The default stack member number is 1.

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

If another stack member is already using the member number that you just specified, the  assigns the lowest available number when you reload the stack member.

**Note** If you change the number of a stack member, and no configuration is associated with the new stack member number, that stack member loses its current configuration and resets to its default configuration.

Do not use the **switch** *current-stack-member-number* **renumber** *new-stack-member-number* command on a provisioned switch. If you do, the command is rejected.

Use the **reload slot** *current stack member number* privileged EXEC command to reload the stack member and to apply this configuration change.

## Examples

This example shows how to change the member number of stack member 6 to 7:

# switch stack port

To disable or enable the specified stack port on the member, use the **switch** command in privileged EXEC mode on a stack member.

**switch** *stack-member-number* **stack port** *port-number* {**disable** | **enable**}

## Syntax Description

| | |
|---|---|
| *stack-member-number* | |
| **stack port** *port-number* | Specifies the stack port on the member. The range is 1 to 2. |
| **disable** | Disables the specified port. |
| **enable** | Enables the specified port. |

## Command Default

The stack port is enabled.

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.2 | This command was introduced. |

## Usage Guidelines

A stack is in the full-ring state when all members are connected through the stack ports and are in the ready state.

The stack is in the partial-ring state when the following occurs:

- All members are connected through their stack ports but some are not in the ready state.
- Some members are not connected through the stack ports.

**Note** Be careful when using the **switch** *stack-member-number* **stack port** *port-number* **disable** command. When you disable the stack port, the stack operates at half bandwidth.

If you enter the **switch** *stack-member-number* **stack port** *port-number* **disable** privileged EXEC command and the stack is in the full-ring state, you can disable only one stack port. This message appears:

```
Enabling/disabling a stack port may cause undesired stack changes. Continue?[confirm]
```

If you enter the **switch** *stack-member-number* **stack port** *port-number* **disable** privileged EXEC command and the stack is in the partial-ring state, you cannot disable the port. This message appears:

```
Disabling stack port not allowed with current stack configuration.
```

## Examples

This example shows how to disable stack port 2 on member 4:

```
# switch 4 stack port 2 disable
```

# switch switch-number role

To change the role of the device in the stack to either active or standby, use the **switch** *switch-number* **role** command in priviledged EXEC mode.

**switch** *switch-number* **role** {**standby** | **active**}

## Syntax Description

## Syntax Description

| | |
|---|---|
| *switch-number* | Stack member number. |
| **standby** | Designates the device as Standby Device for the stack. |
| **active** | Designates the device as Active Device for the stack. |

## Command Default

None

## Command Modes

priviledged EXEC

## Command History

| Release | Modification |
|---|---|
| Cisco IOS XE Fuji 16.9.1 | This command was introduced. |

## Usage Guidelines

Use this command to set a device to active or standby role in the stack. The other devices in the stack remain as members of the stack.

**Note** Changing the role of the device results in redundancy mode being configured to 1:1 mode for the stack. If the configured active or standby device does not boot up, then the stack will not be able to boot.

The following example sets the device number 2 as active device and device number 1 as standby device for the stack.

```
Device> enable
Device# switch 2 role active
WARNING: Changing the switch role may result in redundancy mode being configured to 1+1
mode for this stack. If the configured Active or Standby switch numbers do not boot up,
then the stack will not be able to boot. Do you want to continue?[y/n]? : yes


Device# switch 1 role standby
WARNING: Changing the switch role may result in redundancy mode being configured to 1+1
mode for this stack. If the configured Active or Standby switch numbers do not boot up,
then the stack will not be able to boot. Do you want to continue?[y/n]? : yes
```