Managing Modular Servers

This part contains the following chapters:

Modular Server Management

Modular servers, which are introduced in Cisco UCS M-Series, are contained in compute cartridges.

Note You cannot remove servers from their cartridges.

Booting a Modular Server

Before You Begin

Associate a service profile with a modular server or server pool.

SUMMARY STEPS

1. UCS-A# **scope org** *org-name*
2. UCS-A /org # **scope service-profile** *profile-name*
3. UCS-A /org/service-profile # **power up**
4. UCS-A /org/service-profile # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope org** *org-name*	Enters organization mode for the specified organization. To enter the root organization mode, type / as the *org-name* .
Step 2	UCS-A /org # **scope service-profile** *profile-name*	Enters organization service profile mode for the specified service profile.
Step 3	UCS-A /org/service-profile # **power up**	Boots the modular server associated with the service profile.
Step 4	UCS-A /org/service-profile # **commit-buffer**	Commits the transaction to the system configuration.

The following example boots the modular server associated with the service profile named ServProf34 and commits the transaction:

```
UCS-A# scope org /
UCS-A /org* # scope service-profile ServProf34
UCS-A /org/service-profile* # power up
UCS-A /org/service-profile* # commit-buffer
UCS-A /org/service-profile #
```

Shutting Down a Modular Server

When you use this procedure to shut down a server with an installed operating system, Cisco UCS Manager triggers the OS into a graceful shutdown sequence.

Before You Begin

Associate a service profile with a modular server or server pool.

SUMMARY STEPS

1. UCS-A# **scope org** *org-name*
2. UCS-A /org # **scope service-profile** *profile-name*
3. UCS-A /org/service-profile # **power down**
4. UCS-A /org/service-profile # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope org** *org-name*	Enters organization mode for the specified organization. To enter the root organization mode, type **/** as the *org-name*.
Step 2	UCS-A /org # **scope service-profile** *profile-name*	Enters organization service profile mode for the specified service profile.
Step 3	UCS-A /org/service-profile # **power down**	Shuts down the modular server associated with the service profile.
Step 4	UCS-A /org/service-profile # **commit-buffer**	Commits the transaction to the system configuration.

The following example shuts down the modular server associated with the service profile named ServProf34 and commits the transaction:

```
UCS-A# scope org /
UCS-A /org # scope service-profile ServProf34
UCS-A /org/service-profile # power down
UCS-A /org/service-profile* # commit-buffer
UCS-A /org/service-profile #
```

Power Cycling a Modular Server

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **cycle** {**cycle-immediate** | **cycle-wait**}
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.

	Command or Action	Purpose
Step 2	UCS-A /chassis/cartridge/server # **cycle** {**cycle-immediate** | **cycle-wait**}	Power cycles the modular server. Use the **cycle-immediate** keyword to immediately begin power cycling the modular server; use the **cycle-wait** keyword to schedule the power cycle to begin after all pending management operations have completed.
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example immediately power cycles modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A#  scope server 2/2/2
UCS-A /chassis/cartridge/server # cycle cycle-immediate
UCS-A /chassis/cartridge/server # commit-buffer
UCS-A /chassis/cartridge/server #
```

Performing a Hard Reset on a Modular Server

When you reset a server, Cisco UCS Manager sends a pulse on the reset line. You can choose to gracefully shut down the operating system. If the operating system does not support a graceful shut down, the server is power cycled. The option to have Cisco UCS Manager complete all management operations before it resets the server does not guarantee that these operations will be completed before the server is reset.

Note If you are trying to boot a server from a power-down state, you should not use **Reset**.

If you continue the power-up with this process, the desired power state of the servers will become out of sync with the actual power state and the servers may unexpectedly shut down at a later time. To safely reboot the selected servers from a power-down state, click **Cancel** then select the **Boot Server** action.

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **reset** {**hard-reset-immediate** | **hard-reset-wait**}
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.

	Command or Action	Purpose
Step 2	UCS-A /chassis/cartridge/server # **reset** {**hard-reset-immediate** | **hard-reset-wait**}	Performs a hard reset of the modular server. Use the **hard-reset-immediate** keyword to immediately begin hard resetting the server; use the **hard-reset-wait** keyword to schedule the hard reset to begin after all pending management operations have completed.
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example performs an immediate hard reset of modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A#  scope server 2/2/2
UCS-A /chassis/cartridge/server # reset hard-reset-immediate
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A /chassis/cartridge/server #
```

Acknowledging a Modular Server

Perform the following procedure if you need to have Cisco UCS Manager rediscover the server and all endpoints in the server. For example, you can use this procedure if a server is stuck in an unexpected state, such as the discovery state.

SUMMARY STEPS

1. UCS-A# **acknowledge server** *chassis-id* / *cartridge-id* / *server-id*
2. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **acknowledge server** *chassis-id* / *cartridge-id* / *server-id*	Acknowledges the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example acknowledges modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# acknowledge server 2/2/2
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A #
```

Decommissioning a Modular Server

Decommissioning of a server is performed to temporarily remove the server from the UCSM configuration.

SUMMARY STEPS

1. UCS-A# **decommission server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **decommission server** *chassis-num* / *cartridge-id* / *server-num*	Decommissions the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example decommissions modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# decommission server 2/2/2
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A #
```

Showing the Status of a Modular Server

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **show status**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **show status**	Shows the status for the specified modular server.

The following example shows the status for modular server 1 in cartridge 3 of chassis 1:

```
UCS-A# scope server 1/3/1
UCS-A /chassis/cartridge/server # show status
```

```
Server  Slot Status                      Availability Overall Status        Discovery
------- --------------------------------- ------------ --------------------- ---------
1/3/1   Equipped                          Available    Unassociated          Complete
```

Turning On the Locator LED for a Modular Server

The locator LED is shared by all servers in a cartridge. Hence, you can turn the locator LED on from any server in a cartridge.

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **enable locator-led**
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters chassis server mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **enable locator-led**	Turns on the modular server locator LED.
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example turns on the locator LED for modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# scope server 2/2/2
UCS-A /chassis/cartridge/server # enable  locator-led
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A /chassis/cartridge/server #
```

Turning Off the Locator LED for a Modular Server

The locator LED is shared by all servers in a cartridge. Hence, to turn off a locator LED of a cartridge, you must turn it off from all servers in the cartridge.

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **disable locator-led**
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters chassis mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **disable locator-led**	Turns off the modular server locator LED.
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example turns off the locator LED for modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# scope chassis 2/2/2
UCS-A /chassis/cartridge/server # disable locator-led
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A /chassis/cartridge/server #
```

Resetting the CMOS for a Modular Server

On rare occasions, troubleshooting a server may require you to reset the CMOS. This procedure is not part of the normal maintenance of a server.

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **reset-cmos**
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **reset-cmos**	Resets the CMOS for the modular server.
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example resets the CMOS for modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# scope server 2/2/2
UCS-A /chassis/cartridge/server # reset-cmos
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A /chassis/cartridge/server #
```

Resetting the CIMC for a Modular Server

On rare occasions, such as an issue with the current running firmware, troubleshooting a server may require you to reset the CIMC. This procedure is not part of the normal maintenance of a server. After you reset the CIMC, the server boots with the running version of the firmware for that server.

If the CIMC is reset, the power monitoring functions of Cisco UCS become briefly unavailable for as long as it takes for the CIMC to reboot. While this usually only takes 20 seconds, there is a possibility that the peak power cap could be exceeded during that time. To avoid exceeding the configured power cap in a very low power-capped environment, consider staggering the rebooting or activation of CIMCs.

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **scope CIMC**
3. UCS-A /chassis/cartridge/server/CIMC # **reset**
4. UCS-A /chassis/cartridge/server/CIMC # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-num* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **scope CIMC**	Enters cartridge server CIMC mode
Step 3	UCS-A /chassis/cartridge/server/CIMC # **reset**	Resets the CIMC for the modular server.
Step 4	UCS-A /chassis/cartridge/server/CIMC # **commit-buffer**	Commits the transaction to the system configuration.

The following example resets the CIMC for modular server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# scope server 2/2/2
UCS-A /chassis/cartridge/server # scope CIMC
UCS-A /chassis/cartridge/server/cimc # reset
UCS-A /chassis/cartridge/server/cimc* # commit-buffer
UCS-A /chassis/cartridge/server/cimc #
```

Issuing an NMI from a Modular Server

Perform the following procedure if the system remains unresponsive and you need Cisco UCS Manager to issue a Non Maskable Interrupt (NMI) to the BIOS or operating system from the CIMC. This action creates a core dump or stack trace, depending on the operating system installed on the server.

SUMMARY STEPS

1. UCS-A # **scope server** *chassis-id* / *cartridge-id* / *server-id*
2. UCS-A /chassis/cartridge/server # **diagnostic-interrupt**
3. UCS-A /chassis/cartridge/server # **commit-buffer**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A # **scope server** *chassis-id* / *cartridge-id* / *server-id*	Enters server mode for the specified server.
Step 2	UCS-A /chassis/cartridge/server # **diagnostic-interrupt**	
Step 3	UCS-A /chassis/cartridge/server # **commit-buffer**	Commits the transaction to the system configuration.

The following example sends an NMI from server 2 in cartridge 2 of chassis 2 and commits the transaction:

```
UCS-A# scope server 2/2/2
UCS-A /chassis/cartridge/server # diagnostic-interrupt
UCS-A /chassis/cartridge/server* # commit-buffer
UCS-A /chassis/cartridge/server #
```

Health LED Alarms

The server health LED is located on the front of each Cisco UCS M-Series server. Cisco UCS Manager allows you to view the sensor faults that cause the server health LED to change color from green to amber or blinking amber.

The health LED alarms display the following information:

Name	Description
Severity column	The severity of the alarm. This can be one of the following: • Critical—The blade health LED is blinking amber. • Minor—The blade health LED is amber.
Description column	A brief description of the alarm.
Sensor ID column	The ID of the sensor the triggered the alarm.
Sensor Name column	The name of the sensor that triggered the alarm.

Viewing Health LED Status

SUMMARY STEPS

1. UCS-A# **scope server** *chassis-id* / *cartridge-id* / *server-num*
2. UCS-A /chassis/cartridge/server # **show health-led expand**

DETAILED STEPS

	Command or Action	Purpose
Step 1	UCS-A# **scope server** *chassis-id* / *cartridge-id* / *server-num*	Enters cartridge server mode for the specified modular server in the specified chassis and cartridge.
Step 2	UCS-A /chassis/cartridge/server # **show health-led expand**	Displays the health LED and sensor alarms for the selected server.

The following example shows how to display the health LED status and sensor alarms for chassis 1 cartridge 2 server 1:

```
UCS-A# scope server 1/2/1
UCS-A /chassis/cartridge/server # show health-led
Health LED:
    Severity: Minor
    Reason:: P0V75_STBY:Voltage Threshold Crossed;TEMP_SENS_FRONT:Temperature Threshold
Crossed;
    Color: Amber
    Oper State:: On

    Sensor Alarm:
        Severity: Minor
        Sensor ID: 7
        Sensor Name: P0V75_STBY
        Alarm Desc: Voltage Threshold Crossed

        Severity: Minor
        Sensor ID: 76
        Sensor Name: TEMP_SENS_FRONT
        Alarm Desc: Temperature Threshold Crossed

        Severity: Minor
        Sensor ID: 91
        Sensor Name: DDR3_P1_D2_TMP
        Alarm Desc: Temperature Threshold Crossed

UCS-A /chassis/cartridge/server #
```