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Hitachi Compute Blade 500 Series
Server Blade Setup Guide

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Hitachi Data Systems

MK-91CB500012-09

Contents

Preface

This document describes how to use the Compute Blade 500. (The introduction of the preface states the purpose of the document, briefly introduces the subject of the document, and provides links to the sections of the preface.)

Notice: The use of Compute Blade 500 series and all other Hitachi Data Systems products is governed by the terms of your agreement(s) with Hitachi Data Systems.

This preface includes the following information:

Intended Audience

This document is intended for the personnel who are involved in planning, managing, and performing the tasks to prepare your site for Compute Blade installation and to install the same.

This document assumes the following:

- The reader has a background in hardware installation of computer systems.
- The reader is familiar with the location where the Compute Blade will be installed, including knowledge of physical characteristics, power systems and specifications, and environmental specifications.

Product Version

This document revision applies to CB 520H B3 enhanced option.

Release Notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document.

Document Organization

The table below provides an overview of the contents and organization of this document. Click the chapter title in the left column to go to that chapter. The first page of each chapter provides links to the sections in that chapter.

Chapter	Description
Chapter 1, IP address setting	Describes setting of IP address to server blades.
Chapter 2, Powering on/off server blades in Basic mode	Describes procedures for powering on/off server blades in basic mode.
Chapter 3, Powering on/off server blades in LP mode	Describes procedures for powering on/off server blades in LPAR manager mode.

Referenced Documents

- Logical partitioning manager User's Guide, MK-91CB500068

Document conventions

This term "Compute Blade" refers to all the models of the Compute Blade, unless otherwise noted.

The Hitachi Virtualization Manager (HVM) name has been changed to Hitachi logical partitioning manager (LPAR manager, or LP). If you are using HVM based logical partitioning feature, substitute references to Hitachi logical partitioning manager (LPAR manager, or LP) with HVM.

This document uses the following typographic conventions:

Convention	Description
Regular text bold	In text: keyboard key, parameter name, property name, hardware labels, hardware button, hardware switch. In a procedure: user interface item
Italic	Variable, emphasis, reference to document title, called-out term
`Screen/text`	Command name and option, drive name, file name, folder name, directory name, code, file content, system and application output, user input
< > angled brackets	Variable (used when italic is not enough to identify variable).
[ ] (square bracket)	Optional values
{ } braces	Required or expected value
| vertical bar	Choice between two or more options or arguments

This document uses the following icons to draw attention to information:

Icon	Meaning	Description
WARNING	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
CAUTION	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.
NOTICE	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
Note	Note	This indicates notes not directly related to injury or severe damage to equipment.
Tip	Tip	This indicates advice on how to make the best use of the equipment.

The following table shows abbreviations of logical partitioning manager and logical partition.

Term	Abbreviation
logical partitioning manager	LPAR manager or LP
logical partition	LPAR

Convention for storage capacity values

Physical storage capacity values (for example, disk drive capacity) are calculated based on the following values:

Physical capacity unit	Value
1 kilobyte (KB)	1,000 (10^3) bytes
1 megabyte (MB)	1,000 KB or $1{,}000^2$ bytes
1 gigabyte (GB)	1,000 MB or $1{,}000^3$ bytes
1 terabyte (TB)	1,000 GB or $1{,}000^4$ bytes
1 petabyte (PB)	1,000 TB or $1{,}000^5$ bytes
1 exabyte (EB)	1,000 PB or $1{,}000^6$ bytes

Logical storage capacity values (for example, logical device capacity) are calculated based on the following values:

Logical capacity unit	Value
1 block	512 bytes
1 KB	1,024 (2^{10}) bytes
1 MB	1,024 KB or $1{,}024^2$ bytes
1 GB	1,024 MB or $1{,}024^3$ bytes
1 TB	1,024 GB or $1{,}024^4$ bytes
1 PB	1,024 TB or $1{,}024^5$ bytes
1 EB	1,024 PB or $1{,}024^6$ bytes

Getting help

The Hitachi Data Systems customer support staff is available 24 hours a day, seven days a week. If you need technical support, log on to the Hitachi Data Systems Portal for contact information: https://portal.hds.com.

Comments

Please send us your comments on this document: doc.comments@hds.com. Include the document title and number including the revision level (for example, -07), and refer to specific sections and paragraphs whenever possible. All comments become the property of Hitachi Data Systems Corporation.

Thank you!

1

IP address setting

This chapter describes how to set an IP address to a server blade using a Web console.

Setting an IP address to a server blade

You can set an IP address to a server blade from the management module.

Tip: You can set a server blade using following management tools.

- HCSM
- SC/BSM

Factory default value

The following table shows the factory default values to server blades.

Module name	IP address	Subnet mask
Server blade 0 - 7	0.0.0.0	0.0.0.0

Setting an IP address

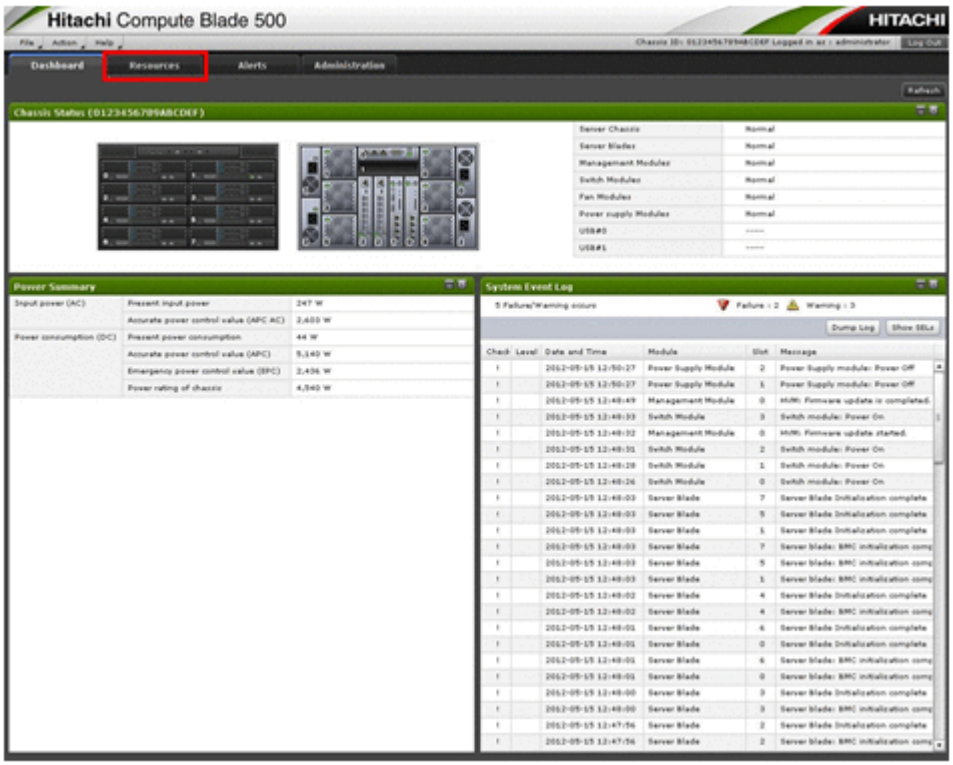
1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

Item	Factory default
IP address of the management module	192.168.0.1

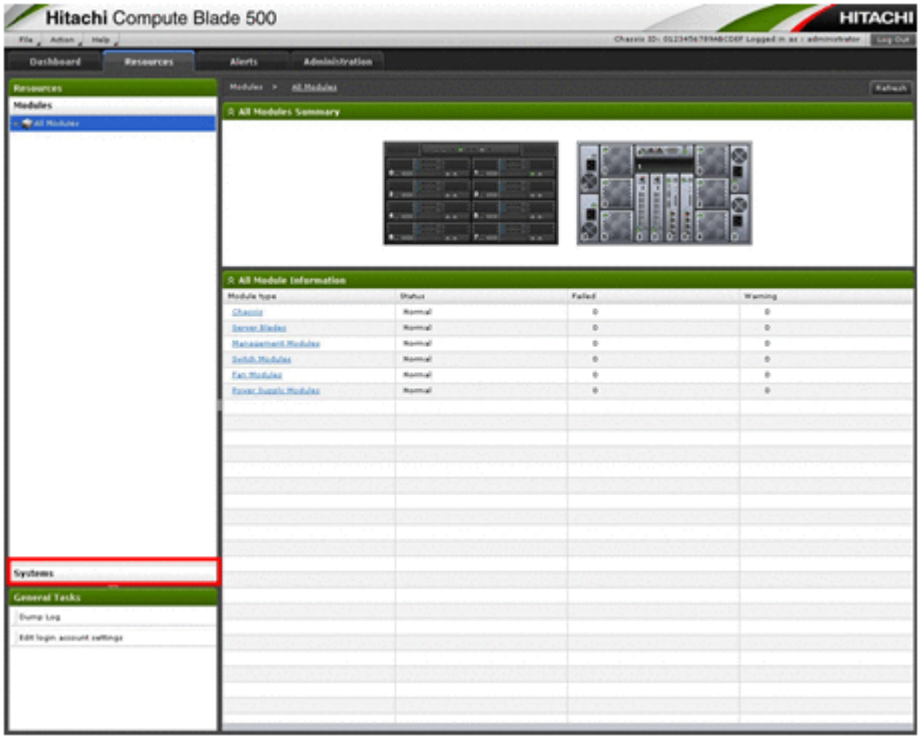
2. Log in to the management module Web console.

Item	Factory default
User ID	administrator
Password	password

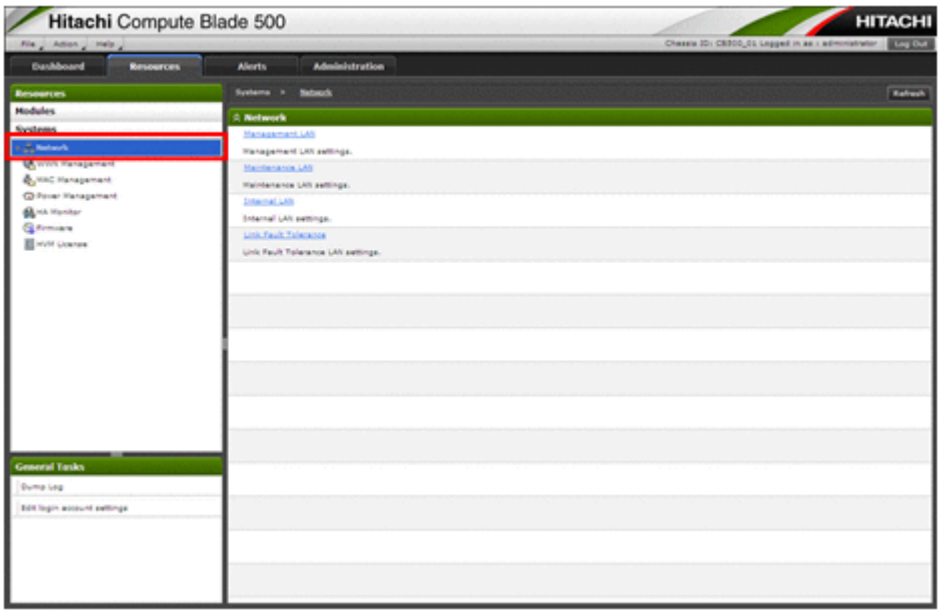
3. When the following Web console menu window is displayed after login, click the **Resources** tab.



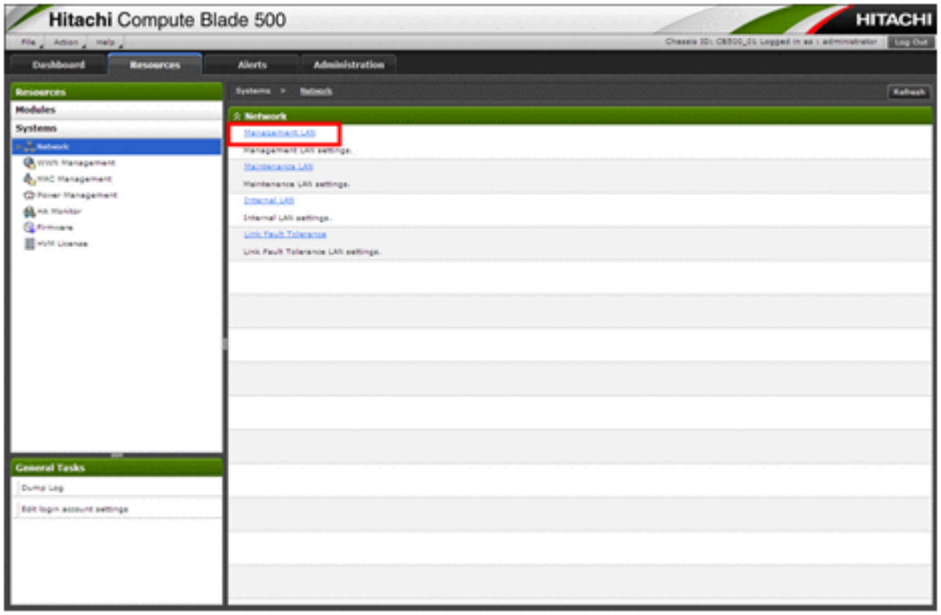
4. Click **Systems** from the navigation tree on the left.



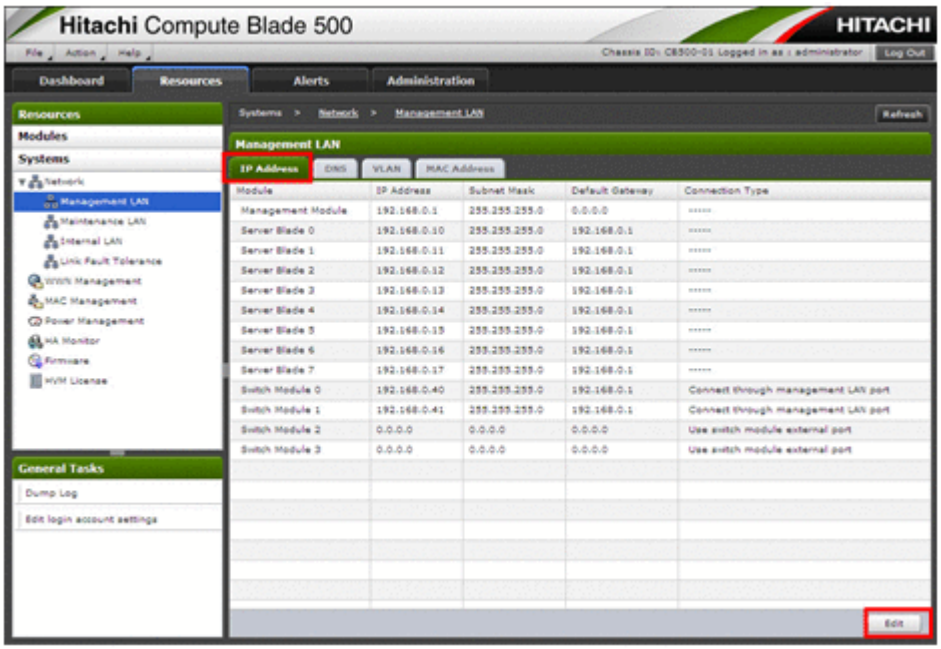
5. Click **Network**.



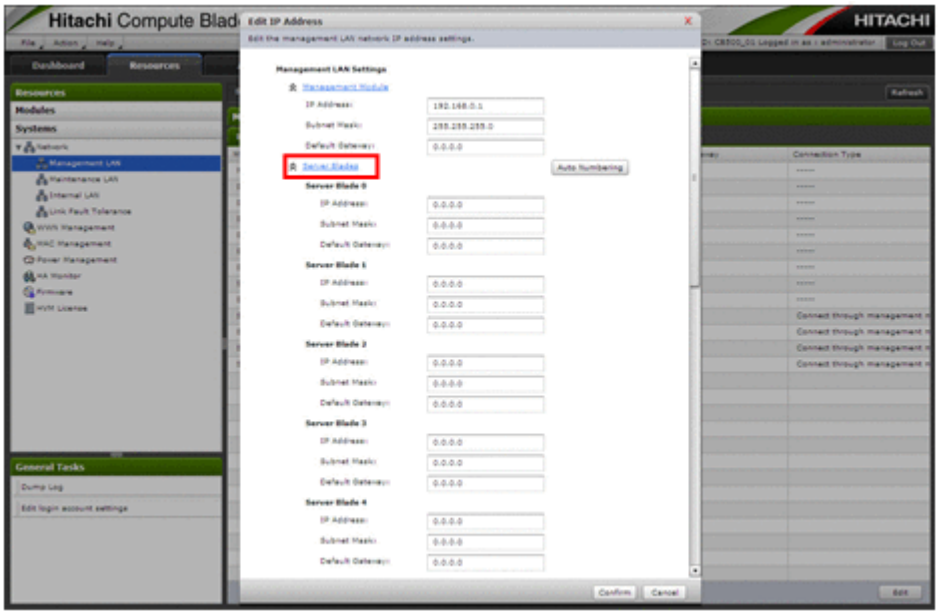
6. Click **Management LAN**.



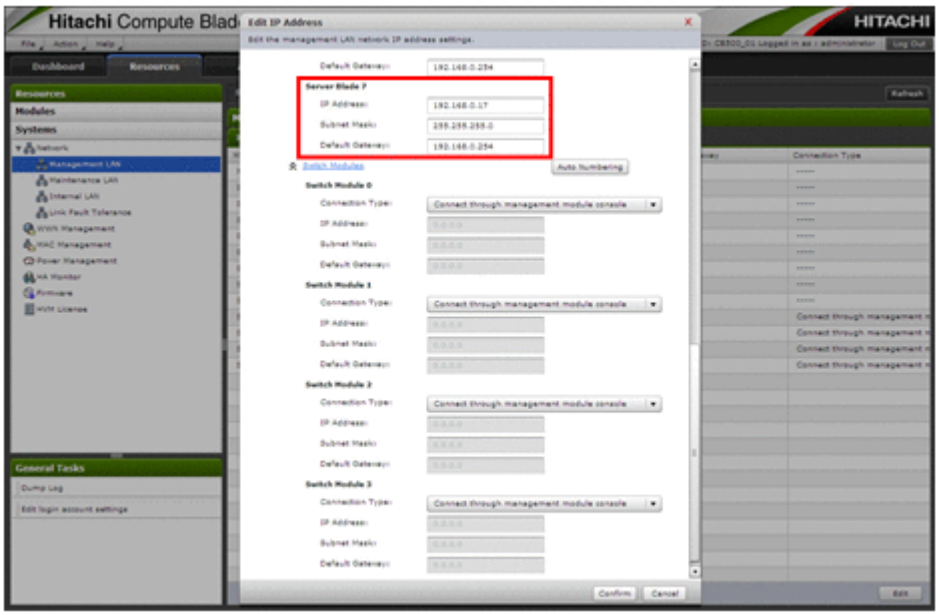
7. Click the **IP Address** tab > **Edit**.



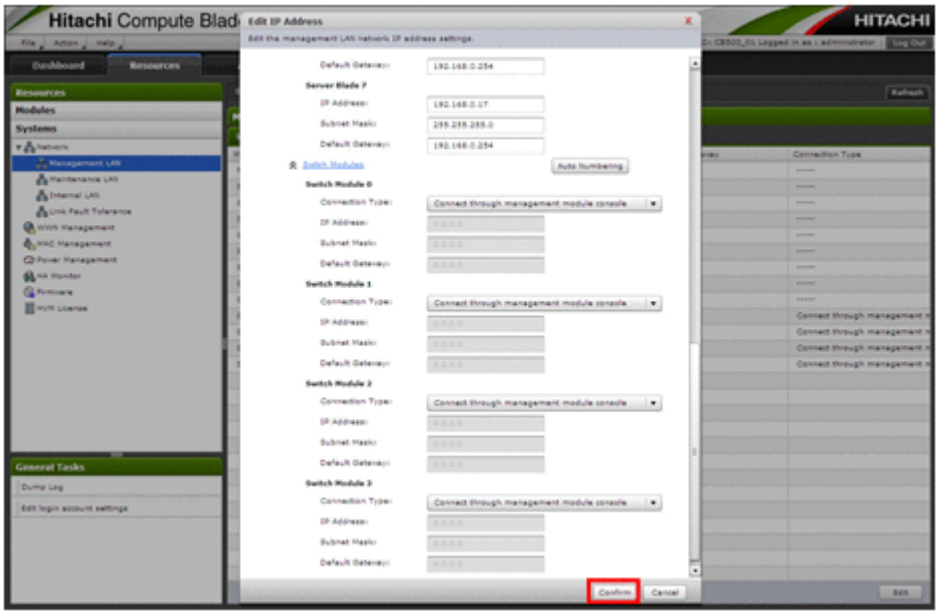
8. The **Edit IP Address** dialog box is displayed. Use the scrol box to find the server blade to set an IP address.



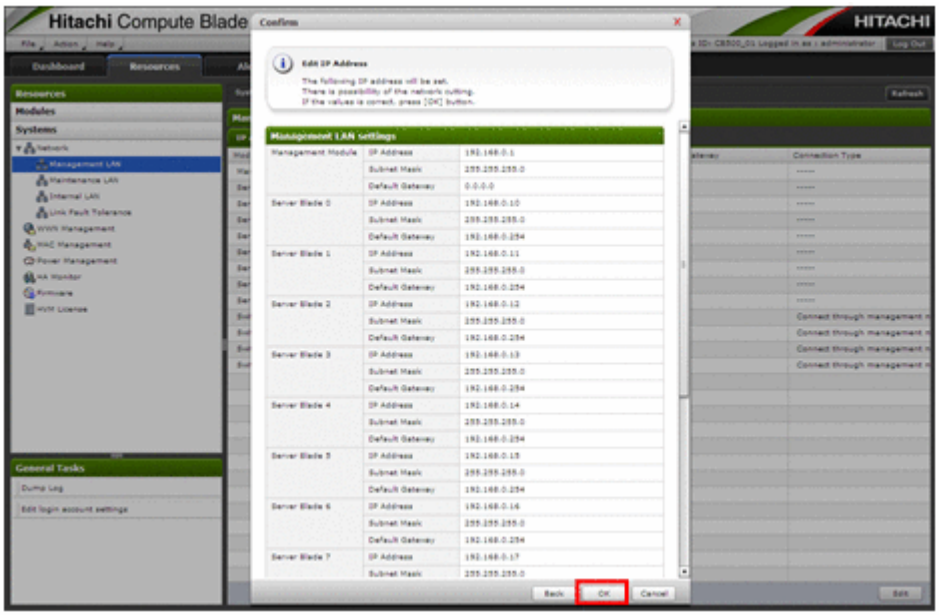
9. Input an IP address, subnet mask, and default gateway to the server blade.



10. Clik **Confirm**.



11. The **Confirm** dialog box is displayed. Confirm that the IP address, subnet mask, and default gateway are correct. Then click **OK**.


Hitachi Compute Blade
HITACHI
Confirm
Edit IP Address
Management LAN settings
Dashboard
Resources
Modules
Systems
General Tasks
Back
OK
Cancel

2

Powering on/off server blades in Basic mode

This chapter describes procedures for powering on/off server blades using a Web console in Basic mode.

Powering on a server blade in Basic mode

This section describes how to power on a server blade in Basic mode.

Tip: You can power on/off a server blade using following management tools.

- HCSM
- SC/BSM

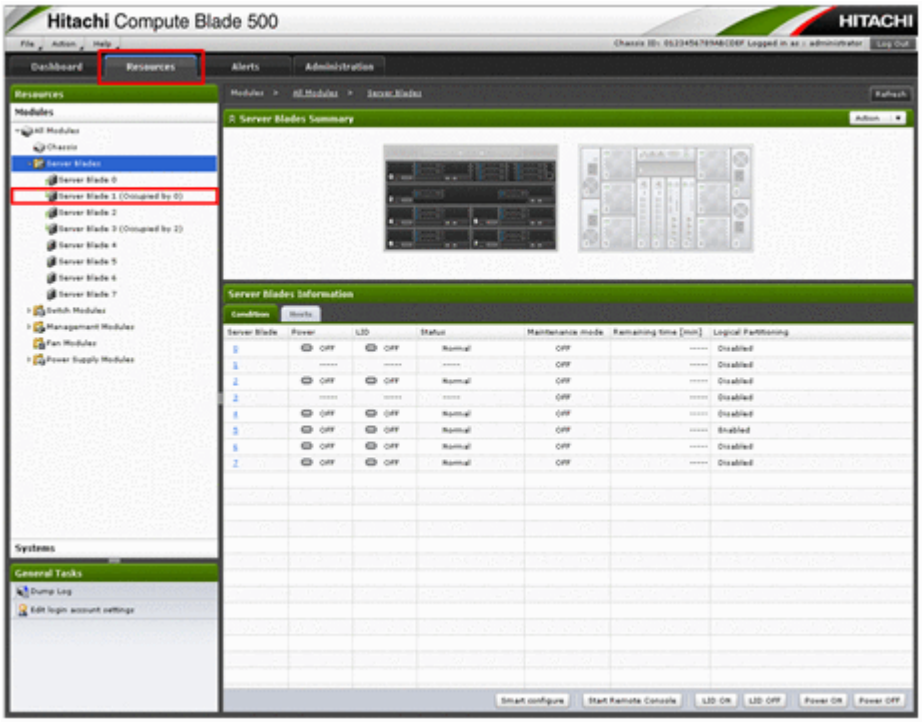
1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

Item	Factory default
IP address of the management module	192.168.0.1

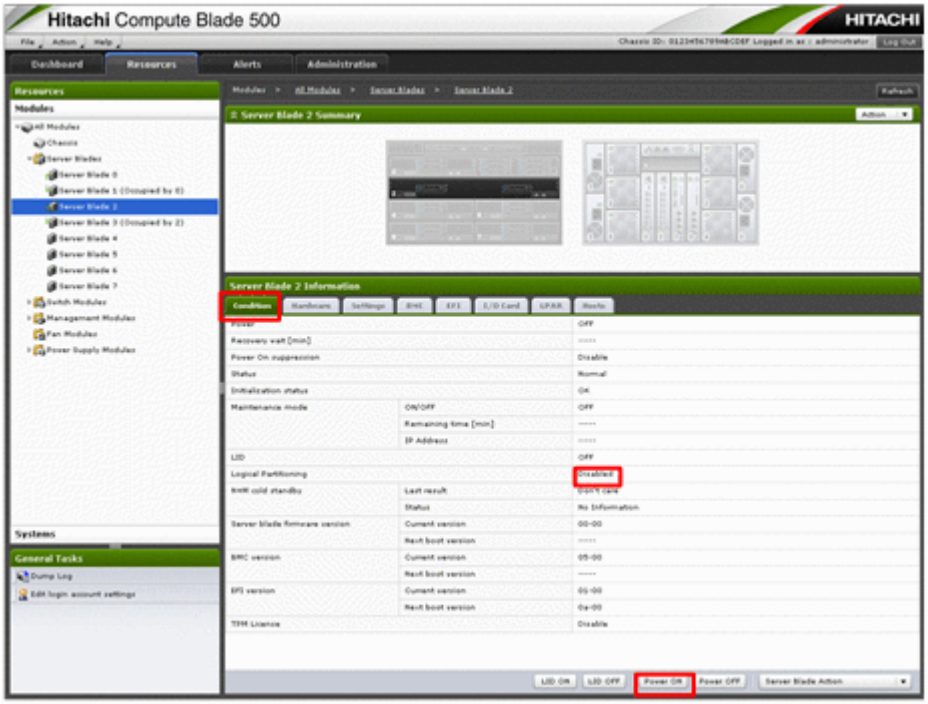
2. Log in to the management module Web console.

Item	Factory default
User ID	administrator
Password	password

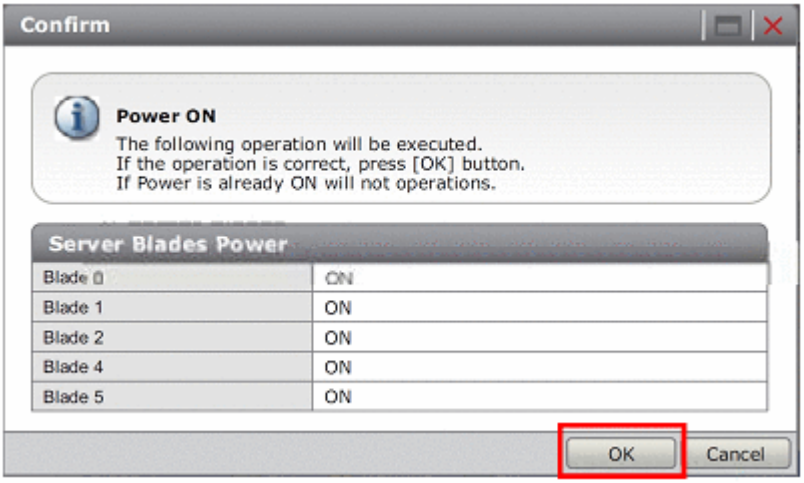
3. Click the **Resources** tab. Then select **Server Blades** from the navigation tree on the left.



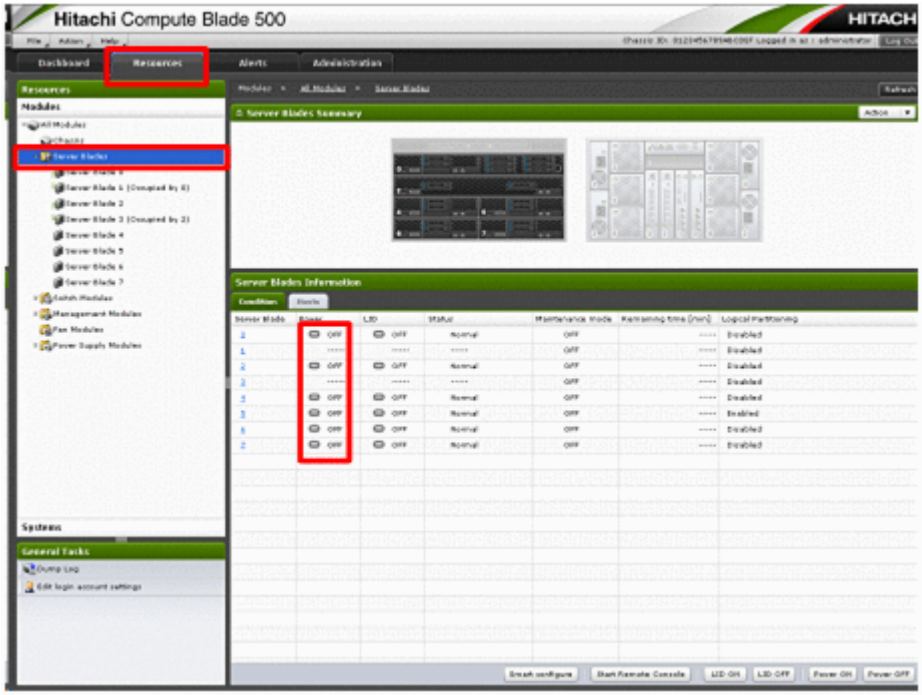
4. Select a target server blade, and click the **Condition** tab. Confirm that the **Logical Partitioning** is **Disabled**, and click **Power ON**.



5. The **Confirm** dialog box is displayed. Confirm that the selected server blade is displayed, and click **OK**.



6. The selected server blade is powered on and the OS starts.
7. For confirmation, select **Server Blades** from the navigation tree under the **Resources** tab. When the following window is displayed, confirm that the selected server blade is ON in the **Power** column.



Tip: When the Logical Partitioning is Enabled, click **Show LP settings** in the **Setting** tab and set the **Logical Partitioning** to **Disabled** according to the procedure in LPAR manager initial settings on page 3-11.

Powering off a server blade in Basic mode

This section describes procedures for powering off a server blade in basic mode. Perform Shutting down a server blade on page 2-4 when an OS on the server blade is properly running.

Shutting down a server blade

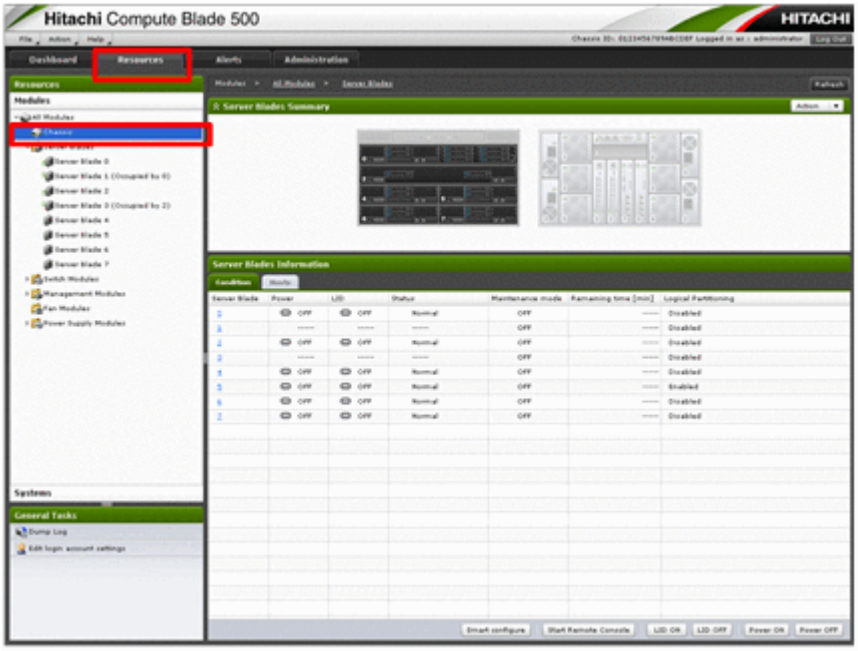
1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

Item	Factory default
IP address of the management module	192.168.0.1

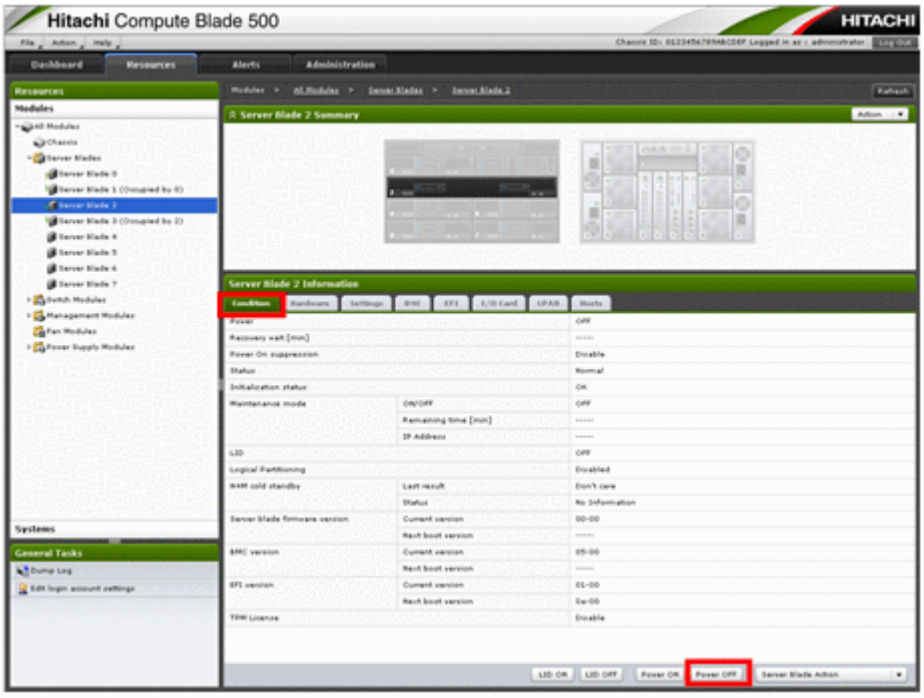
2. Log in to the management module Web console.

Item	Factory default
User ID	administrator
Password	password

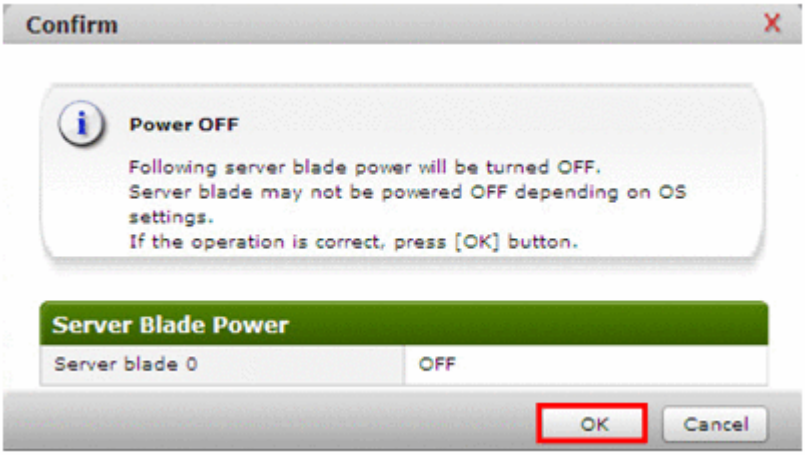
3. Click the **Resources** tab. Then select **Server Blades** from the navigation tree on the left.



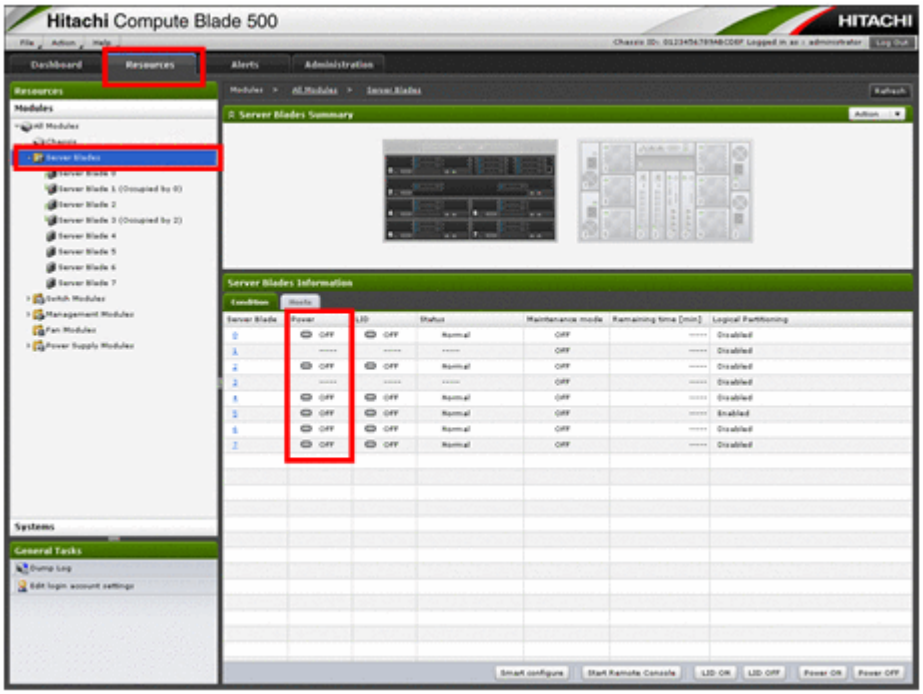
4. Select a server blade to shut down, and click the **Condition** tab. Then click **Power OFF**.



5. The **Confirm** dialog box is displayed. Confirm that the selected server blade is displayed, and click **OK**.



6. The selected server blade is shut down.
7. For confirmation, select **Server Blades** from the navigation tree under the **Resource**s tab. When the following window is displayed, confirm that the selected server blade is OFF in the **Power** column.



Note: Depending on the OS versions or when the OS is not properly running on the server blade, it may not be powered off automatically by the shutdown operation.
If the server blade is not automatically powered off, perform Forced powering off a server blade on page 2-6

Forced powering off a server blade

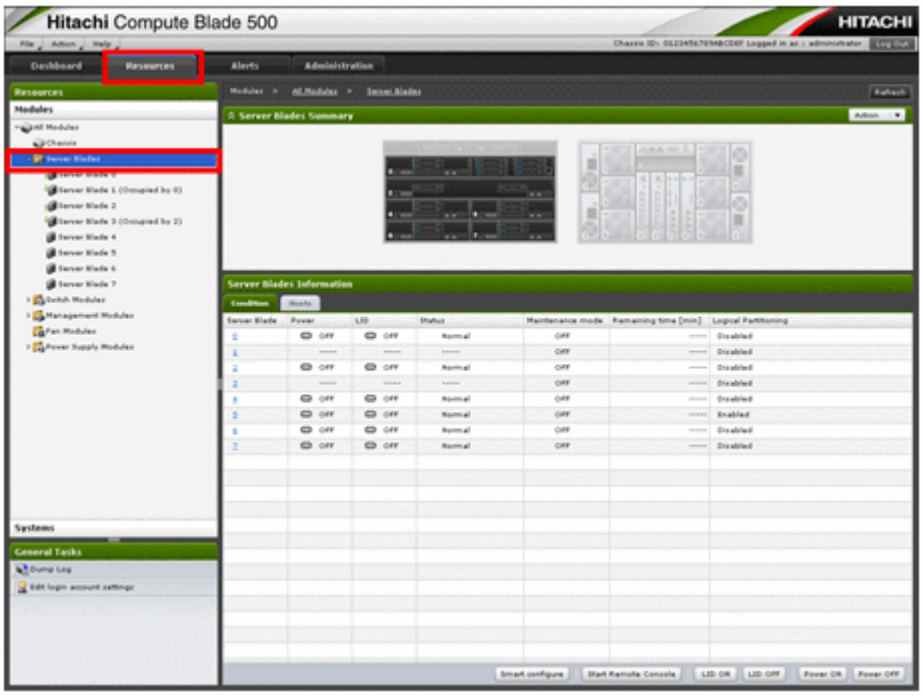
1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

Item	Factory default
IP address of the management module	192.168.0.1

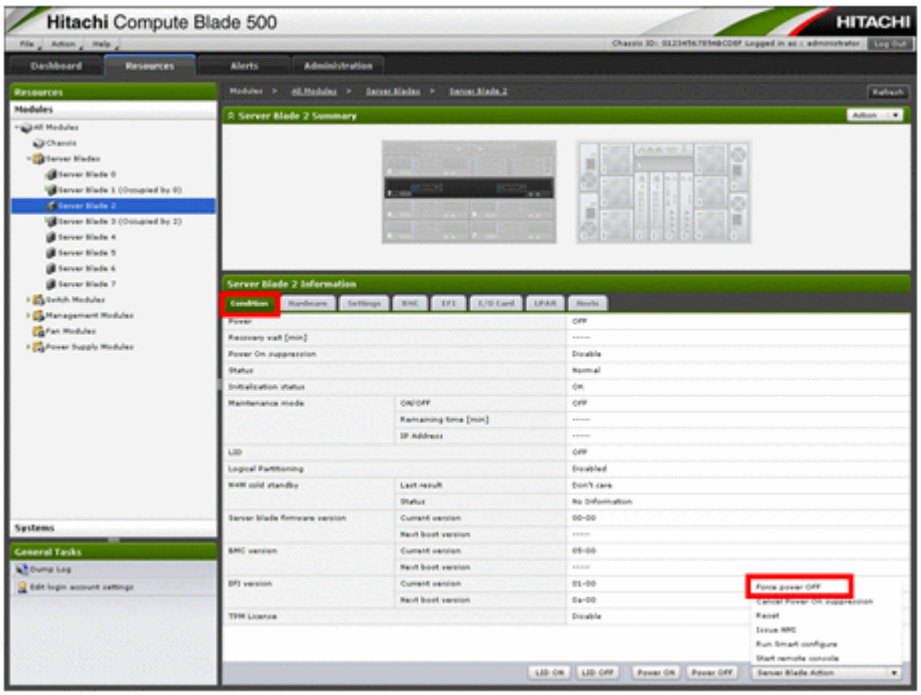
2. Log in to the management module Web console.

Item	Factory default
User ID	administrator
Password	password

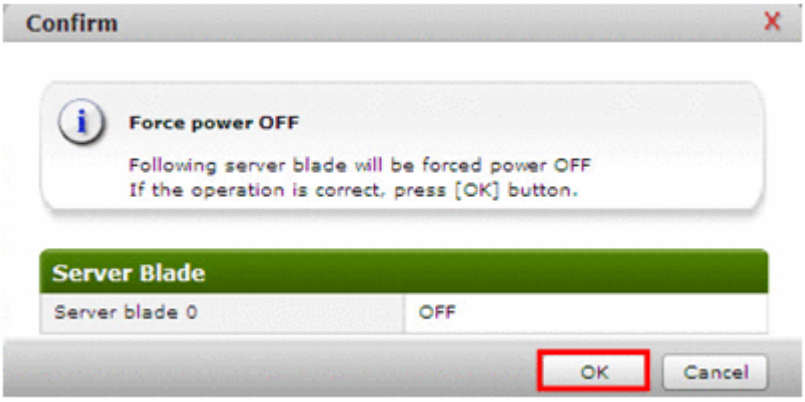
3. Click the **Resources** tab. Then select **Server Blades** from the navigation tree on the left.



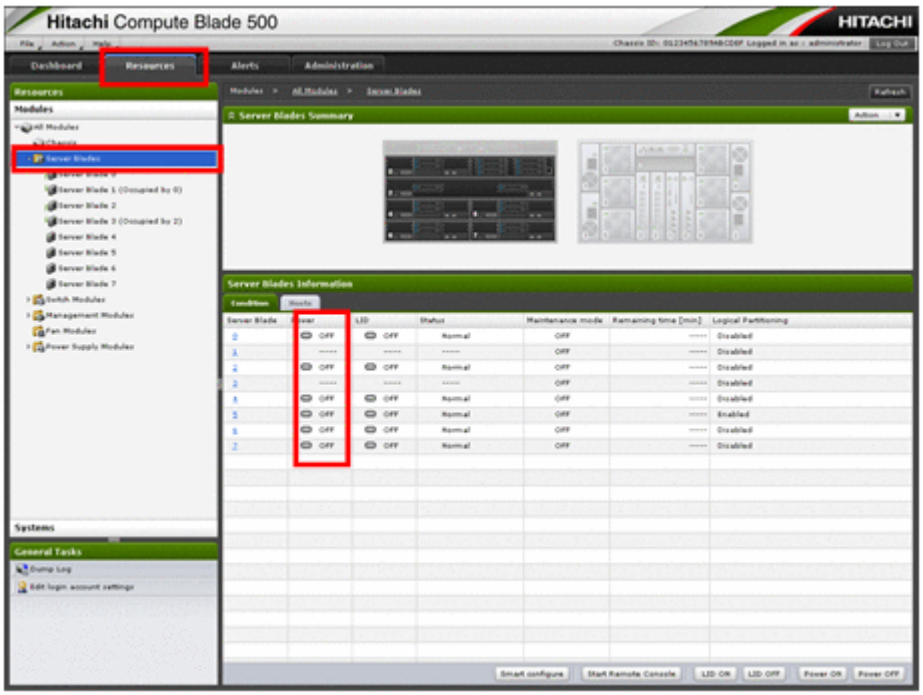
4. Select a server blade to power off, and click the **Condition** tab. Then click **Server Blade Action > Force power OFF.**



5. The **Confirm** box is displayed. Confirm that the selected server blade is displayed, and click **OK**.



6. The selected server blade is powered off.
7. For confirmation, select **Server Blades** from the navigation tree under the **Resources** tab. When the following window is displayed, confirm that the selected server blade is OFF in the **Power** column.



Note:

- When an OS is properly running on a server blade, do not press the power button of the server blade or not click **Power Off System** of the remote console. If you do so, the OS may not boot up or data may be destroyed.
- When an OS is not properly running on a server blade, you may not be able to shut down the server blade. If the server blade is not automatically powered off, even by performing "Forced powering off a server blade", press the power button of the server blade for four seconds or more[1] to power off the server blade forcedly.

  Note:

  1. Release the power button until POWER LED is changed blinking from lighting.If you press the power button for six seconds or more, the server blade is powered on again after forced termination. In this case, confirm that the Active LED of HDD does not light, and then press the power button for four seconds or more.

3

Powering on/off server blades in LP mode

This chapter describes procedures for powering on/off server blades using a Web console in LP mode.

The display may be different according to version.

Powering on a server blade in LP mode

This section explains about the preparation and boot for LPAR manager. LPAR manager boot is performed by powering on a server blade in LP mode. Several preparations (system console configuration, management module configuration and switch module configuration) are required before and after LPAR manager boot according to *Hitachi Compute Blade 500 Series Getting Started Guide*.

Tip: You can power on/off a server blade using following management tools.

- HCSM
- SC/BSM

Procedure to be required for using LPAR manager

The following table shows the procedure for using LPAR manager.

Item		Target			Console	Reference
		Management module	Switch module	Server blade		
System console configuration	Network settings	Y	-	-	-	*Getting Started Guide*
	Browser settings					
	LAN cable connection					
Management module configuration	Initial settings	Y	-	-	Web console	
Switch module configuration	Management LAN port configuration	-	Y	-	Web console	
	Password settings					
	User ID creation					
Server blade configuration	IP address settings	-	-	Y	Web console	*Server Blade Setup Guide*
LPAR manager settings and boot	Cable connection to the System unit	Y	Y	-	-	
	Connecting the Web console	-	-	Y	Web console	

Item		Target			Console	Reference
		Management module	Switch module	Server blade		
	Setting the EFI	-	-	Y		
	Selecting the LPAR manager firmware	-	-	Y		
	LPAR manager initial settings	-	-	Y		
	LPAR manager boot	-	-	Y		
Creating LPARs	Creating LPARs	-	-	Y		
	Setting boot order	-	-	Y		
	Saving configuration information	-	-	Y		
LPAR activation		-	-	Y		
Notes: Y: Setting target -: Not target						

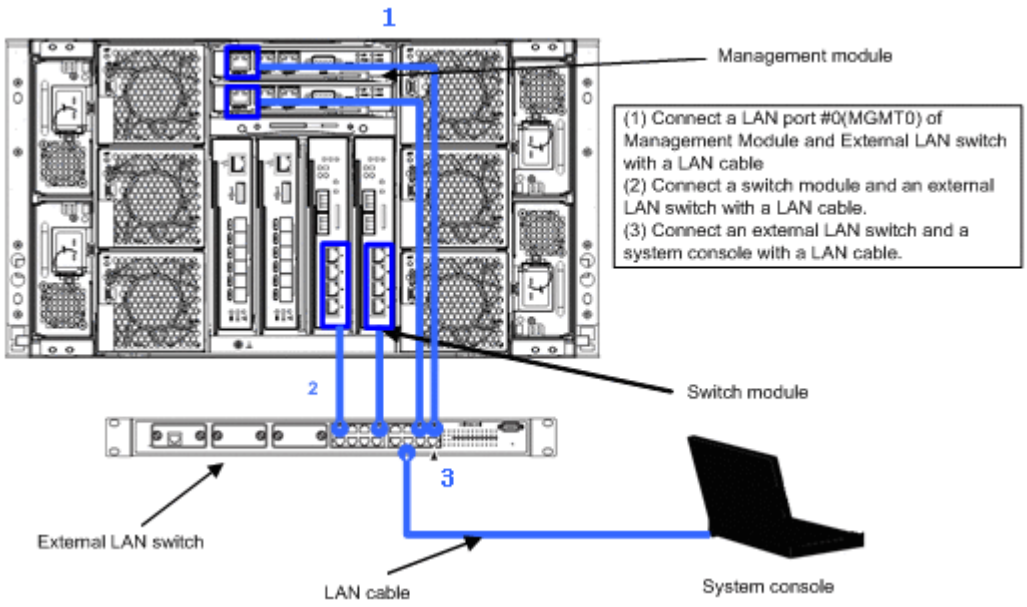
Setting an IP address to a server blade

See Chapter 1, IP address setting on page 1-1

Cable connecting to the System unit

Server Blades need to communicate with a management module in order to use it in LP mode.

Below is an example for the connection between management module and a LAN switch module.



When using the LAN pass through module, the LAN pass through module should be connected to the external LAN switch cable as follows.

Only for CB520A when using Emulex 10Gb 4-port in the mezzanine card1

Server Blade	LAN pass through module	
Server blade 0	Slot 0	Port 1
	Slot 1	Port 1
Server blade 1	Slot 0	Port 3
	Slot 1	Port 3
Server blade 2	Slot 0	Port 5
	Slot 1	Port 5
Server blade 3	Slot 0	Port 7
	Slot 1	Port 7
Server blade 4	Slot 0	Port 9
	Slot 1	Port 9
Server blade 5	Slot 0	Port 11
	Slot 1	Port 11
Server blade 6	Slot 0	Port 13
	Slot 1	Port 13
Server blade 7	Slot 0	Port 15
	Slot 1	Port 15

In other case

Server Blade	LAN pass through module	
Server blade 0	Slot 0	Port 0
	Slot 1	Port 0
Server blade 1	Slot 0	Port 2
	Slot 1	Port 2
Server blade 2	Slot 0	Port 4
	Slot 1	Port 4
Server blade 3	Slot 0	Port 6
	Slot 1	Port 6
Server blade 4	Slot 0	Port 8
	Slot 1	Port 8
Server blade 5	Slot 0	Port 10
	Slot 1	Port 10
Server blade 6	Slot 0	Port 12
	Slot 1	Port 12
Server blade 7	Slot 0	Port 14
	Slot 1	Port 14

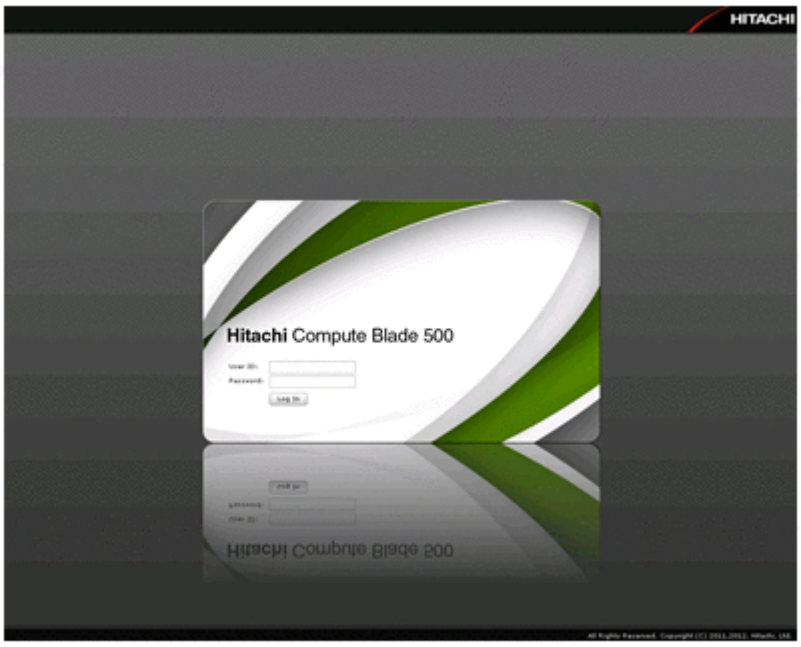
Connecting the Web console

1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

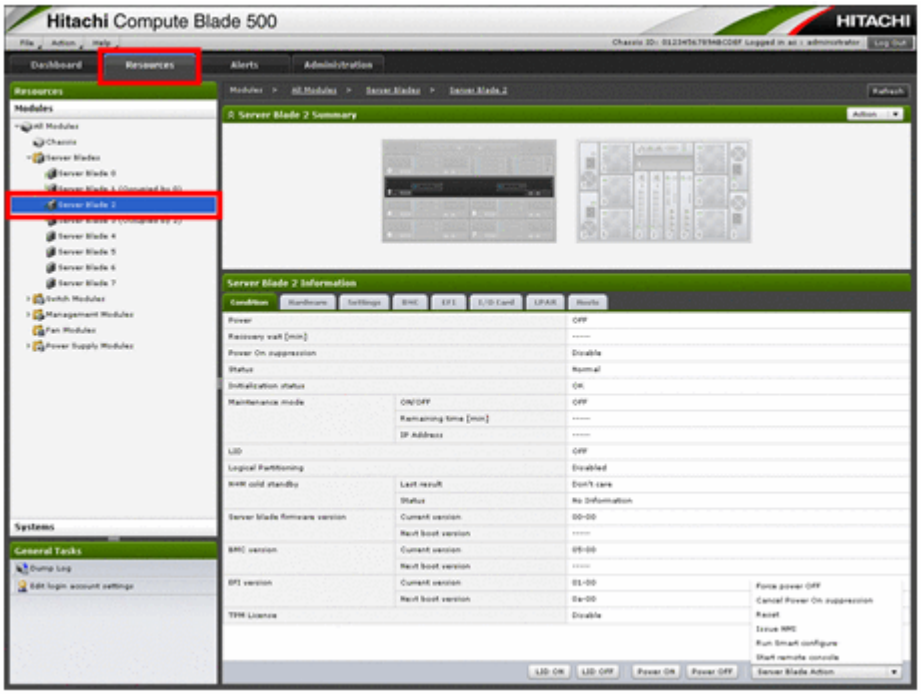
Item	Factory default
IP address of the management module	192.168.0.1

2. Log in to the Web console management module.

Item	Factory default
User ID	administrator
Password	password



3. Click the **Resources** tab. Then select **Server Blades** from the navigation tree on the left.



Setting the EFI

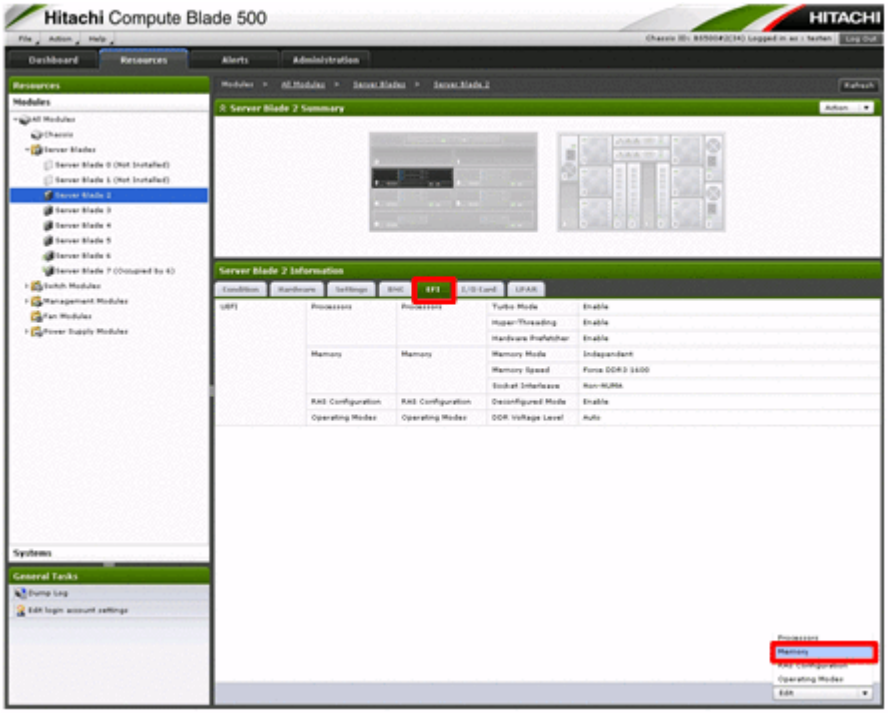
[Only for CB 520 H/CB 520A/CB520X]

The following table shows the EFI configuration (recommended value) in the LP mode.

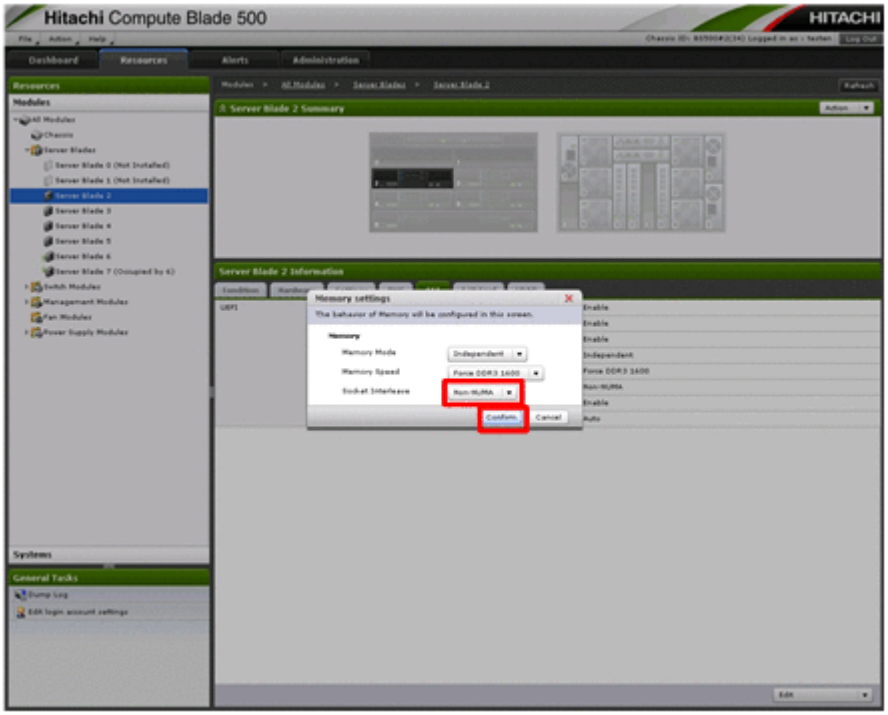
Set up other required items according to your environment.

Item			Recommend Value	An occurring phenomenon when recommended value is unmatched	Supported version
Memory	Memory	Socket Interleave	Non-NUMA	Performance decline	01-1X or lower
			Non-NUMA / NUMA	-	01-2X or higher

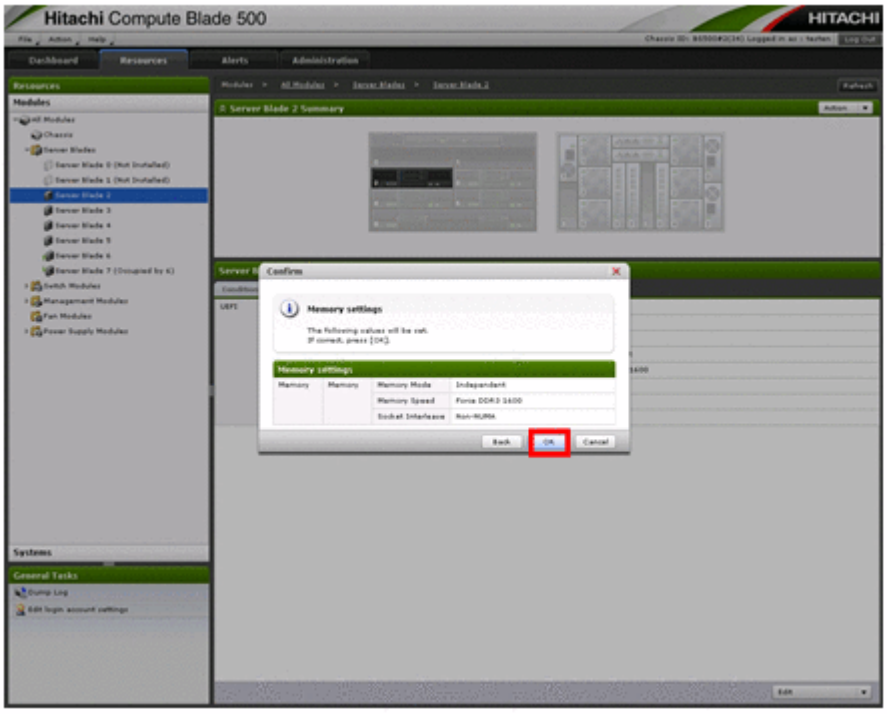
1. Click the **EFI** tab. Then click **Edit > Memory**.



2. Select the **Non-NUMA** or **NUMA** on **Socket Interleave** Then click **Confirm**.



3. Click **OK**.



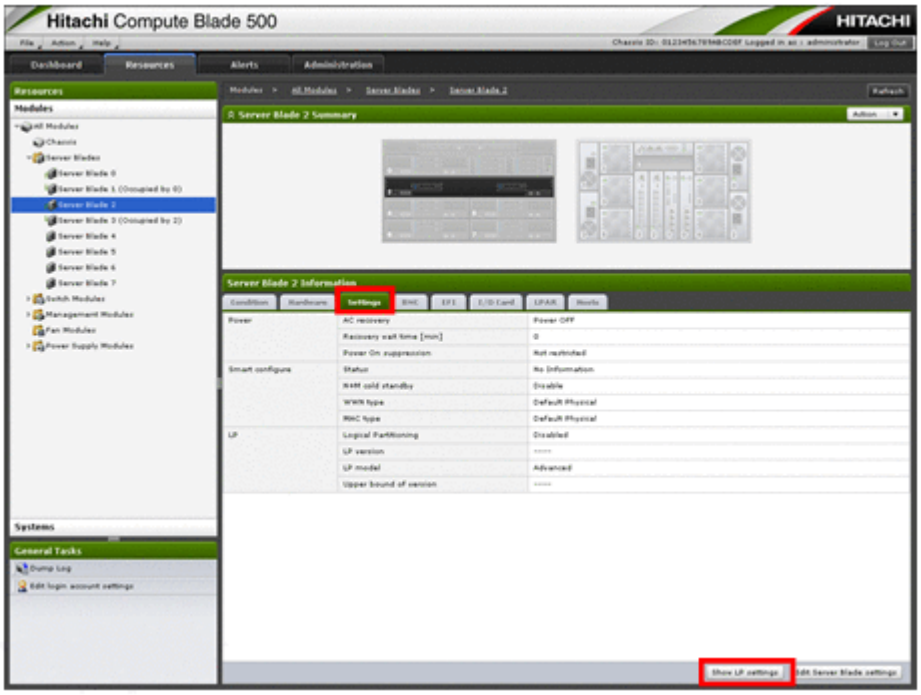
Selecting the LPAR manager firmware

Tip:

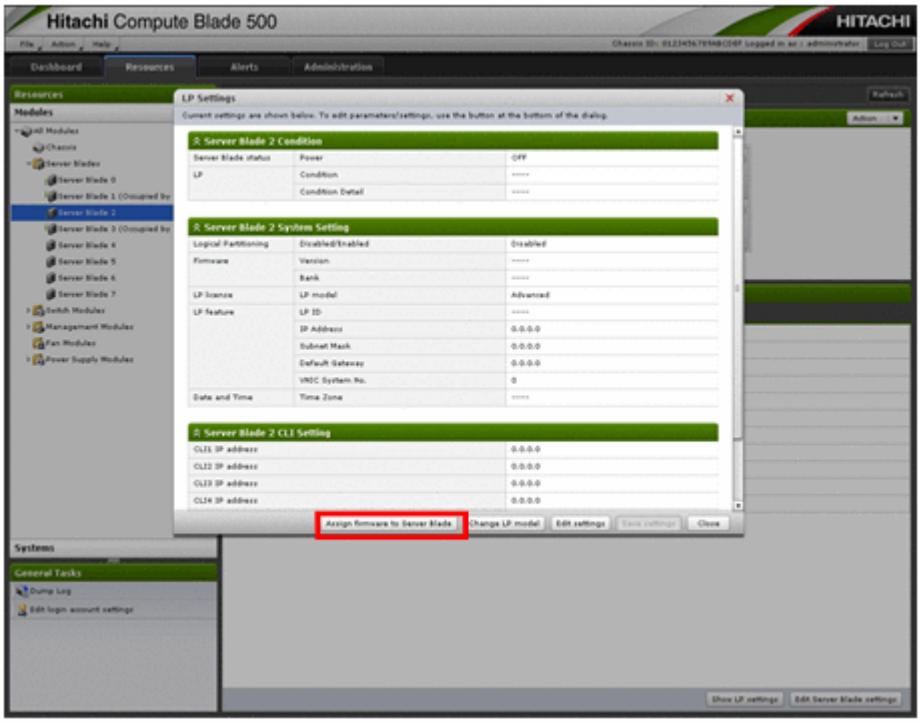
- The LPAR manager firmware with allocating at time of the factory shipment can be used.

- For A0240 and later versions of management module firmware, perform this operation by using the [**LPAR Manager**] tab.
  For details, see the *Hitachi Compute Blade 500 Series Web Console User's Guide*.

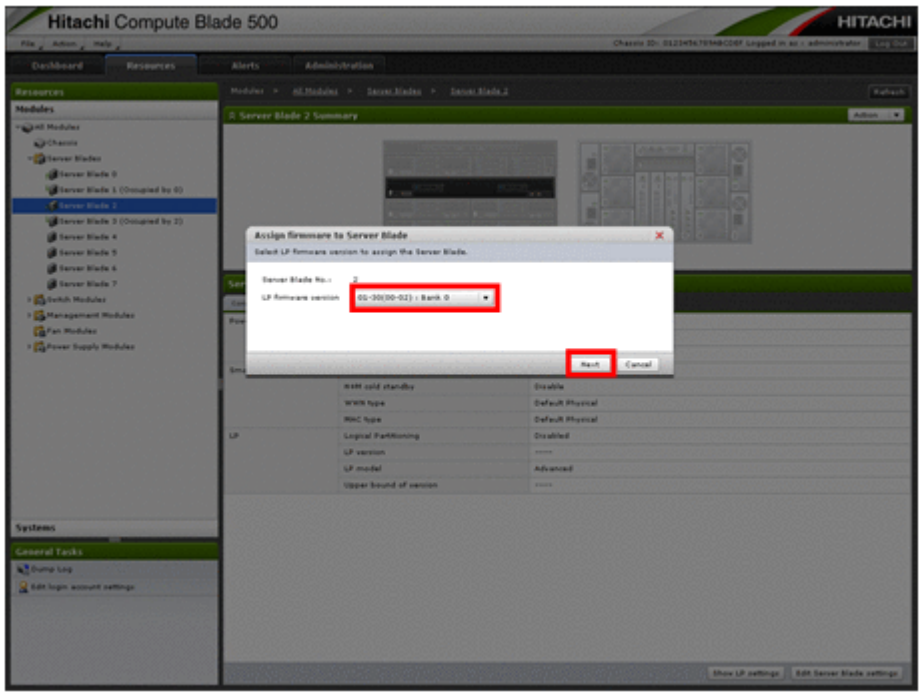
1. Click the **Settings** tab. Then click **Show LP settings.**



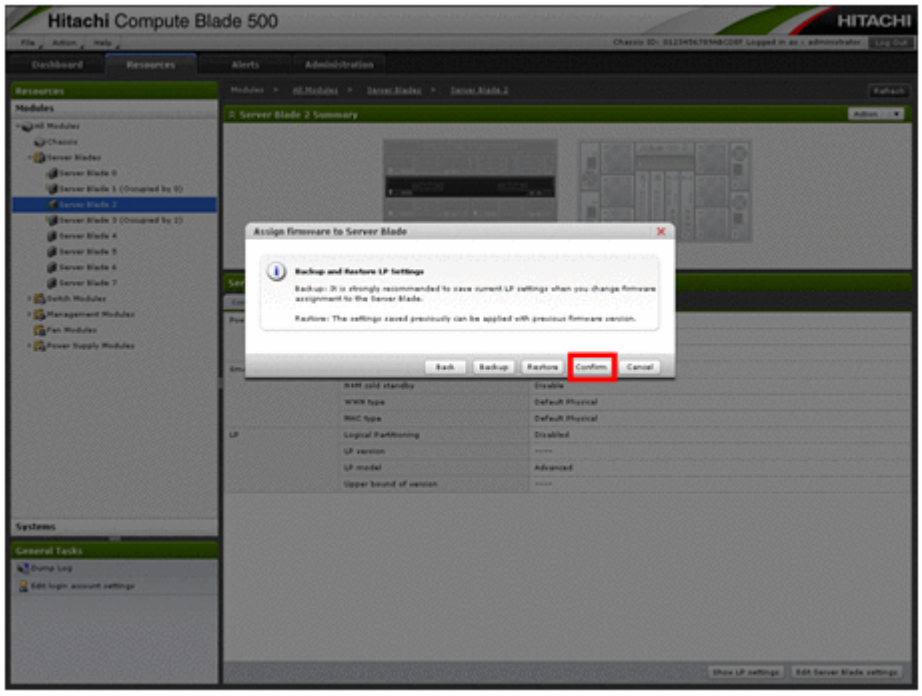
2. Click **Assign Firmware to Server blade**.



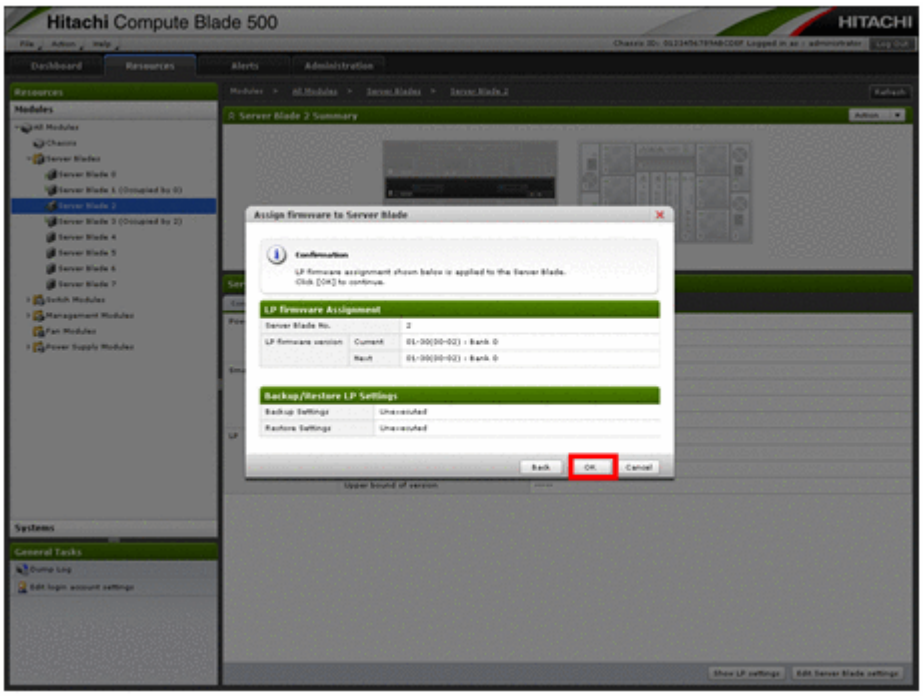
3. Select **LP firmware version**, and click **Next**.



4. Click **Confirm**.



5. Click **OK**.

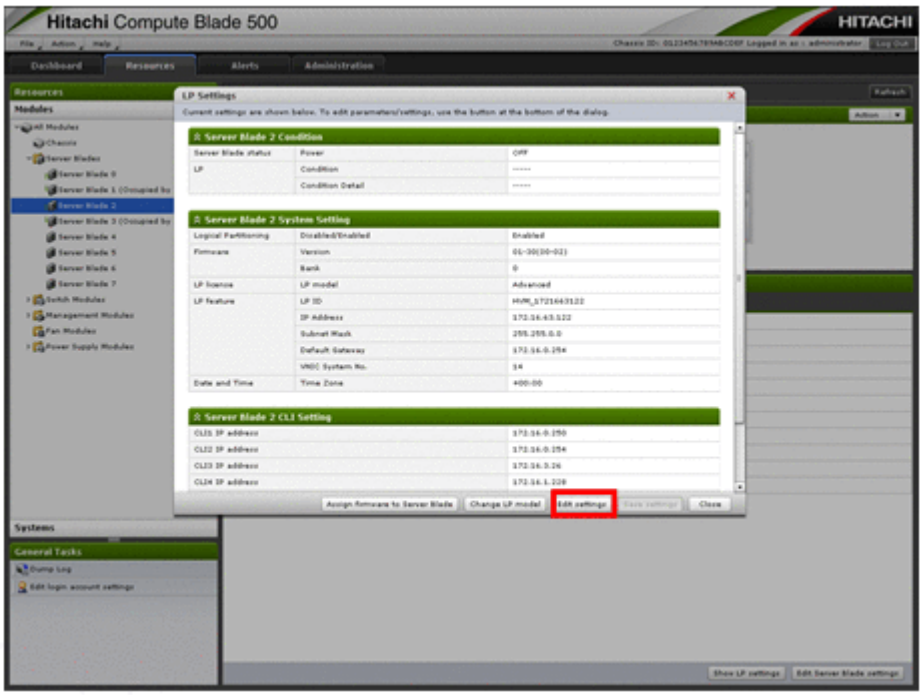


LPAR manager initial settings

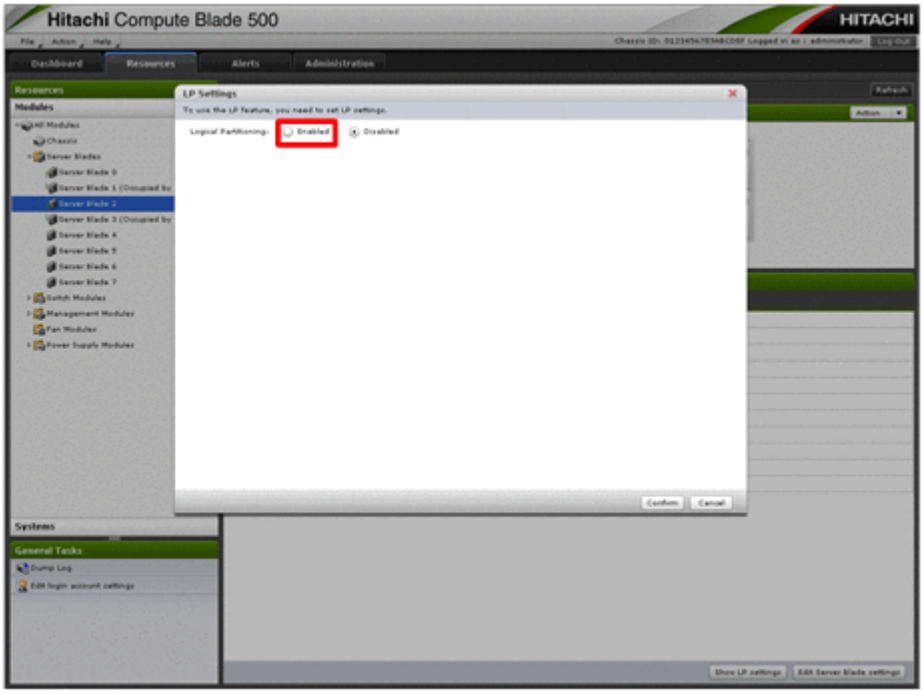
Tip:

- For A0240 and later versions of management module firmware, perform this operation by using the [**LPAR Manager**] tab.
  For details, see the *Hitachi Compute Blade 500 Series Web Console User's Guide*.

1. Click **Edit settings**.



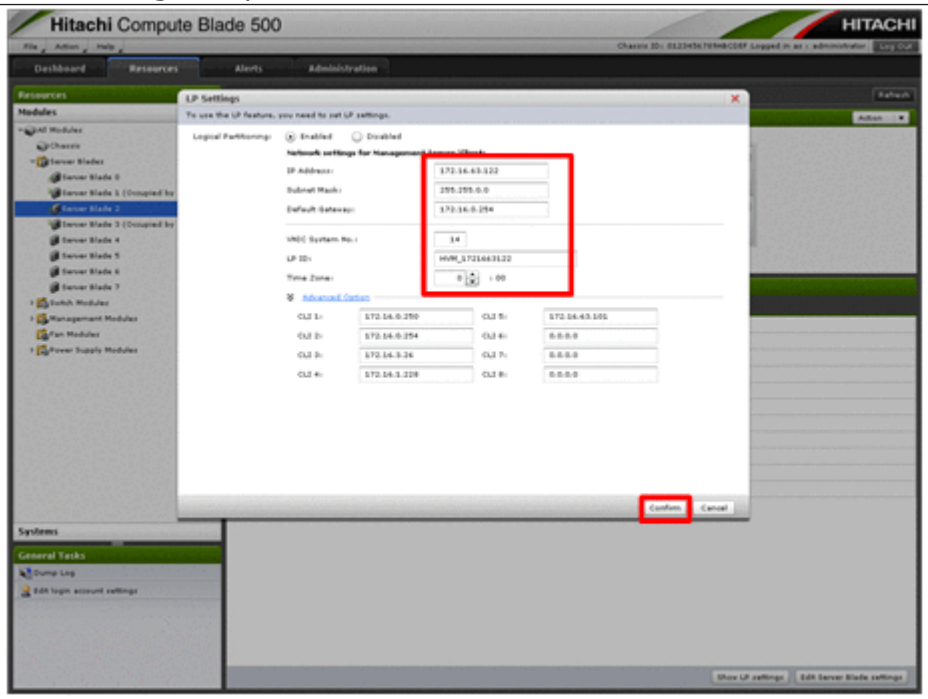
2. Set an **Logical Partitioning** to **Enabled**.



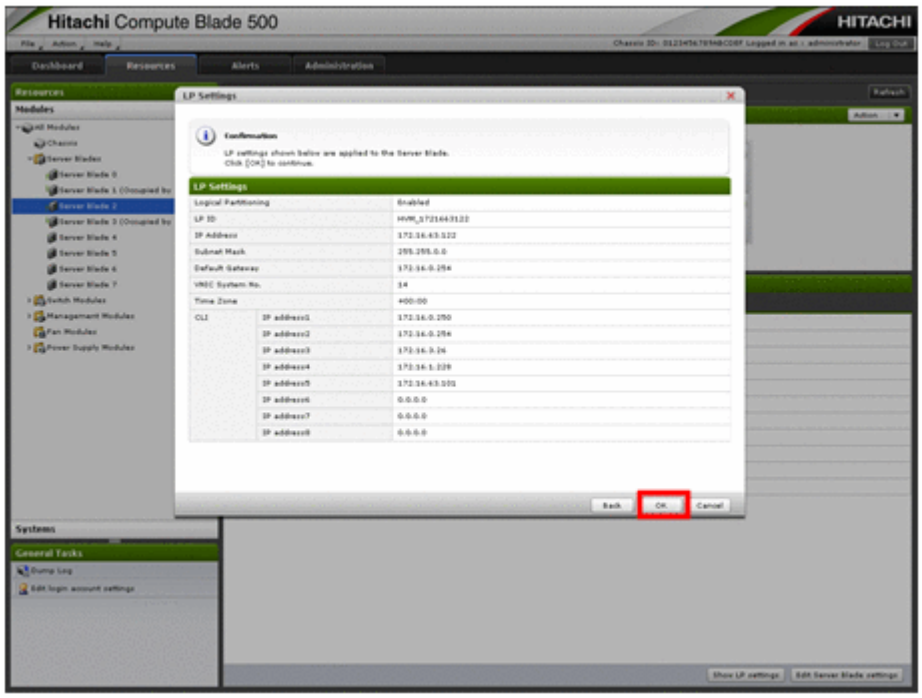
3. Set the following items and then click **Confirm**.
   - IP Address
   - Subnet mask
   - Default gateway
   - Virtual NIC System Number
   - Time-zone

Note:

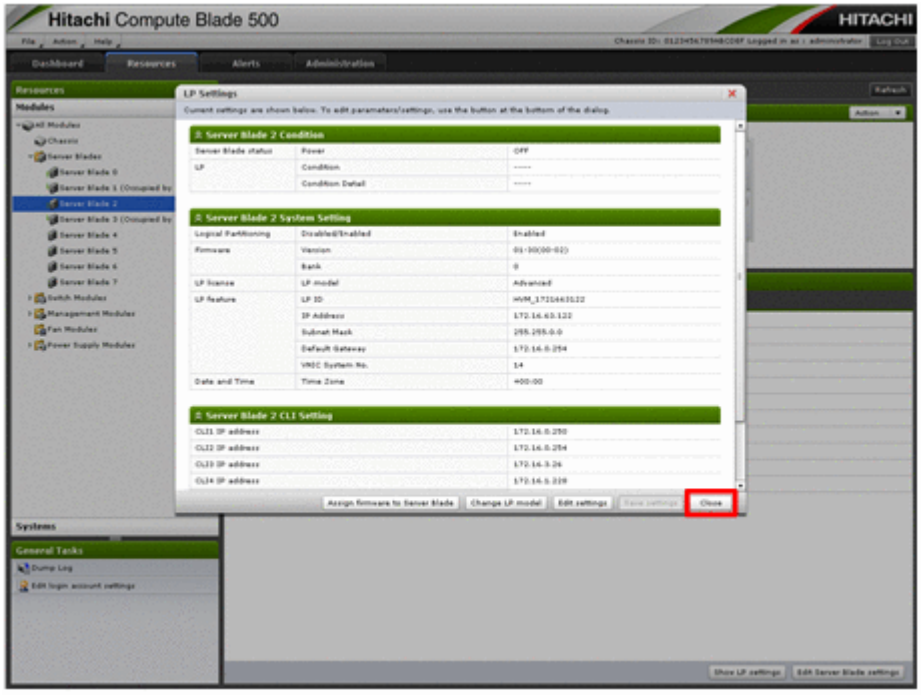
- Set the IP address not to be overlapped with any IP address of a management module or the server blades. When overlapping, Web console or the remote console cannot be connected.
- Set the IP address and the default gateway on the same network. If set the IP address and the default gateway on the different network, the LPAR manager might not boot or network disturbance might occur after the LPAR manager boot completed.
- When the default gateway is not used, set "0.0.0.0" for the default gateway. If set the default gateway to blank, the LPAR manager might not boot.
- VNIC System No. is used to generating MAC address for avoiding the duplication of the MAC address of shared NIC and the virtual NIC.Thus, set a unique value among all LPAR manager systems, including Compute Blade Series.



4. Click **OK**.



5. Click **Close**.



LPAR manager boot

LPAR manager is booted up by powering on a server blade in LP mode after the preparation above.

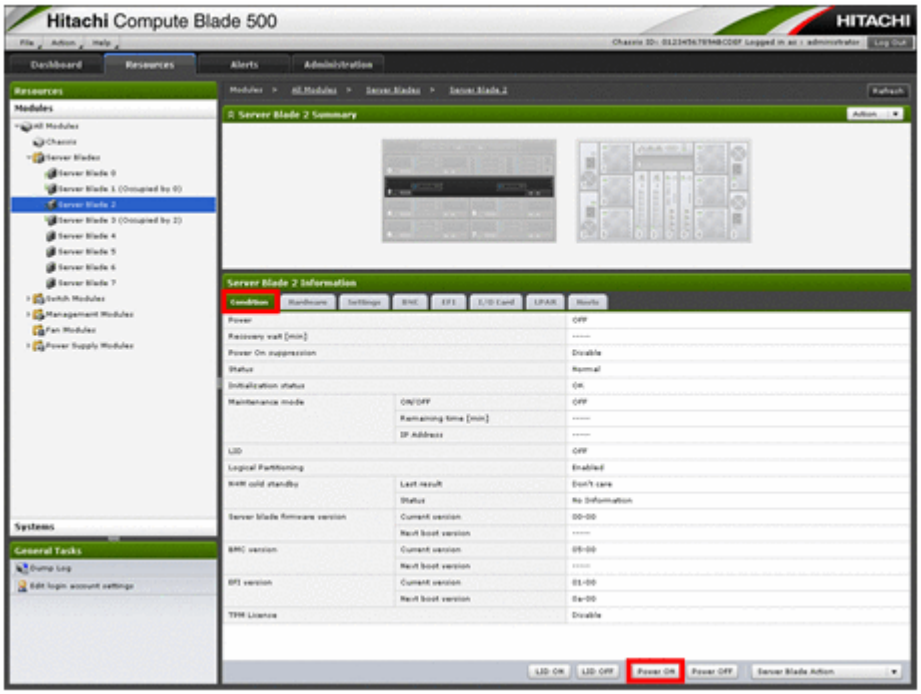
Tip: When **Refresh** is clicked after the command turning on a server blade is executed, a message showing that an LPAR manager is booting is displayed

until booting the server blade completes.(When **Refresh** is not clicked, the contents displayed on the screen are not changed.)
However, when **Refresh** is clicked immediately after the command turning on a server blade is executed, any of the following messages is shown.

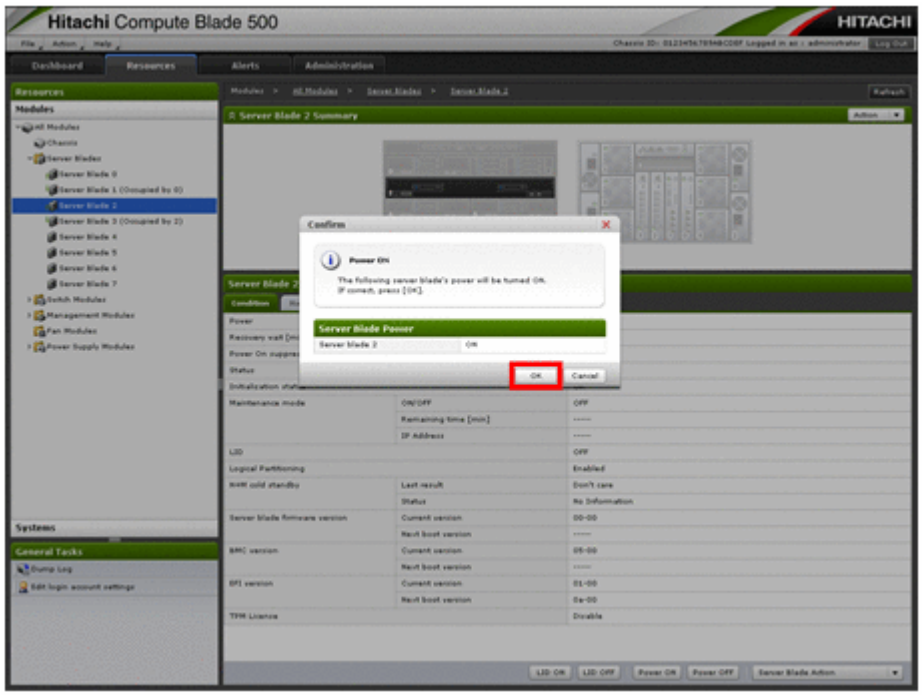
- Message showing that retrieving the data for the state of LPAR manager failed
- Message showing that LPAR manager is being shut down

In this case, click **Refresh** after a while.

1. Click the **Condition** tab and then Click **Power ON**.



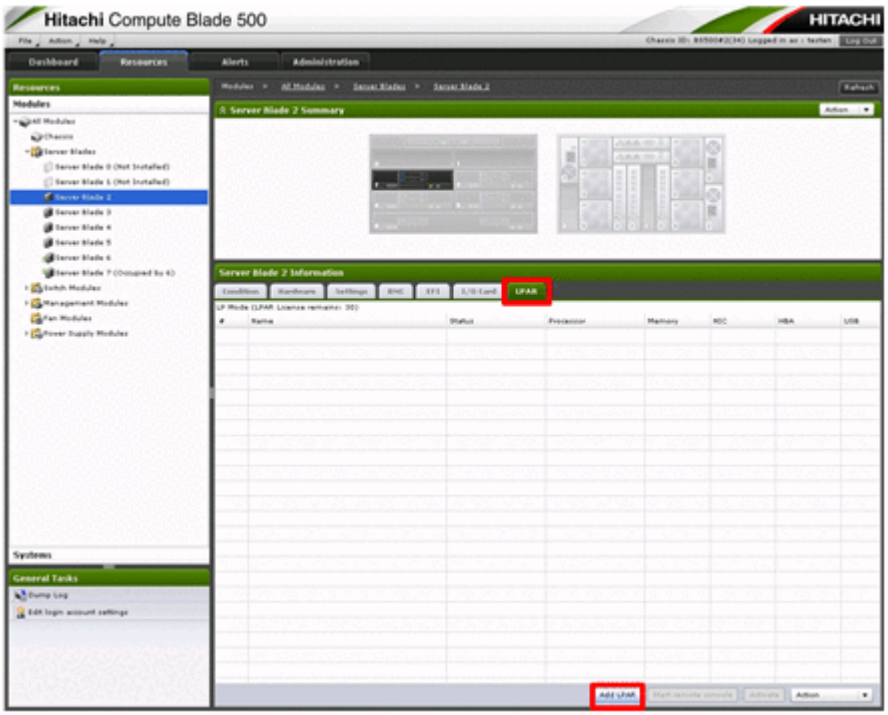
2. Click **OK**.



3. The LPAR manager boots up in 10 to 15 minutes.The booting time depends on the configuration of each server blade.

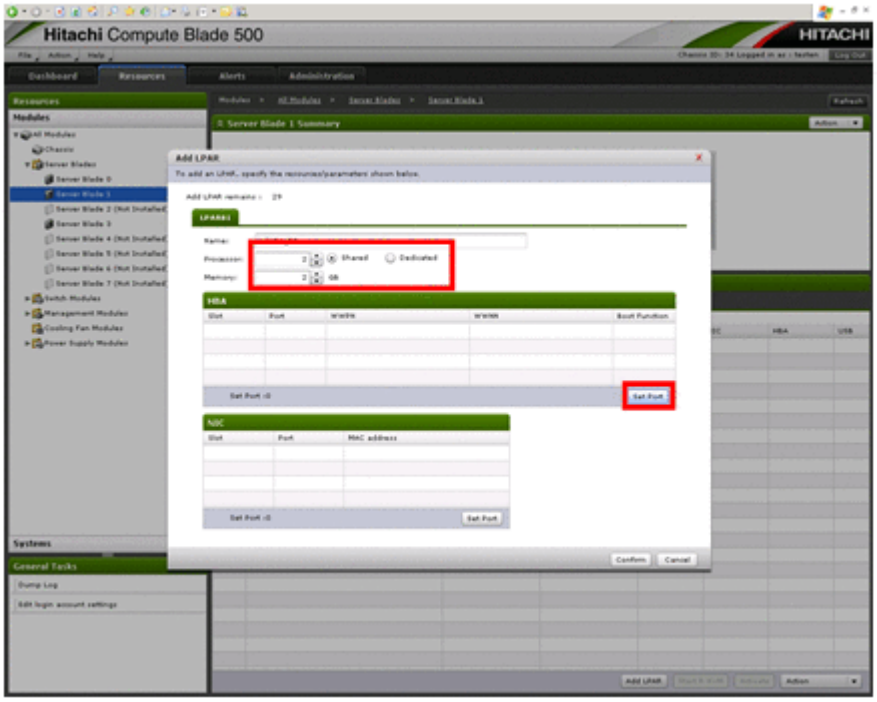
Creating LPARs

1. Click the **LPAR** tab and then click **Add LPAR**.

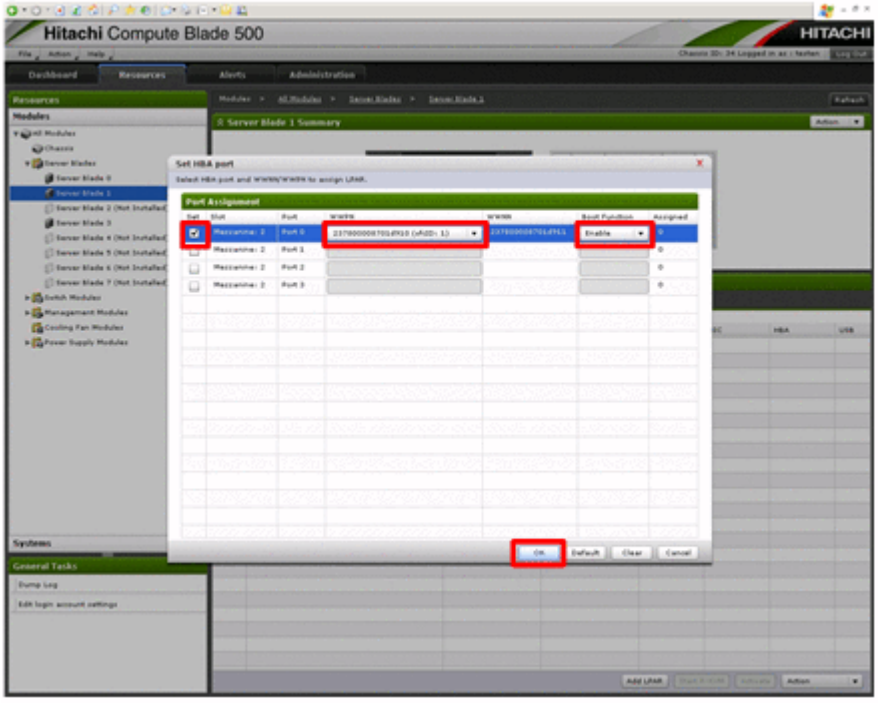


2. Set the following items and then click **Set Port** in **HBA**.
   - Processor

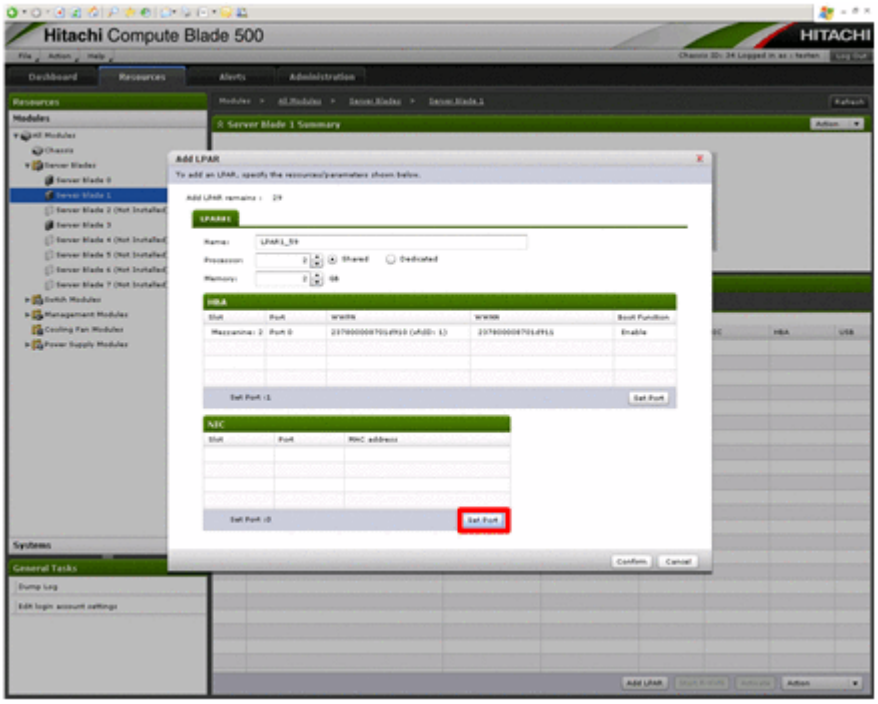
- Processor Scheduling Mode
- Memory



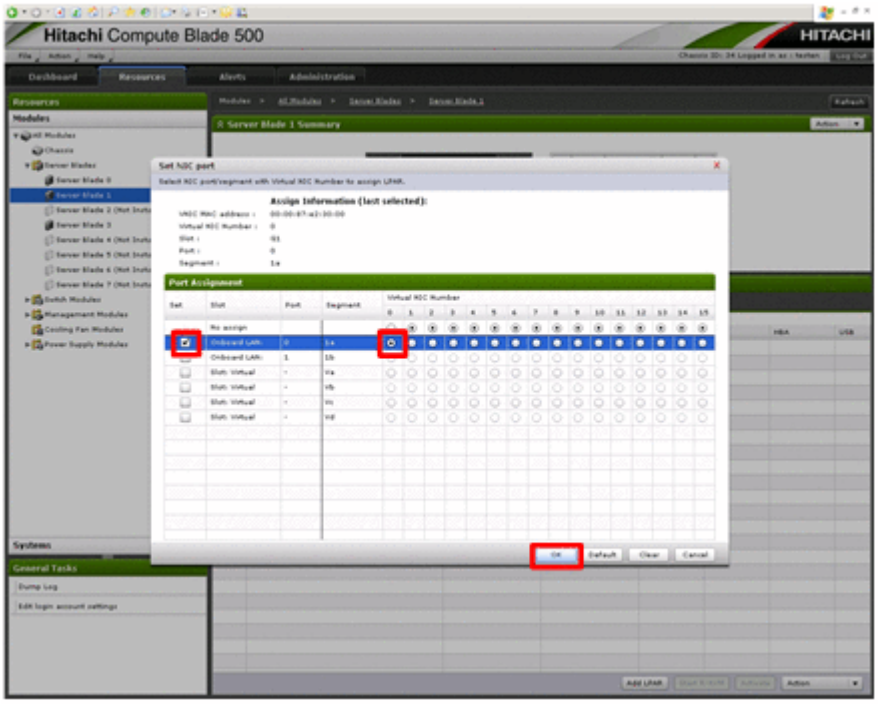
3. Select WWPN and enable the boot function, then click **OK**.



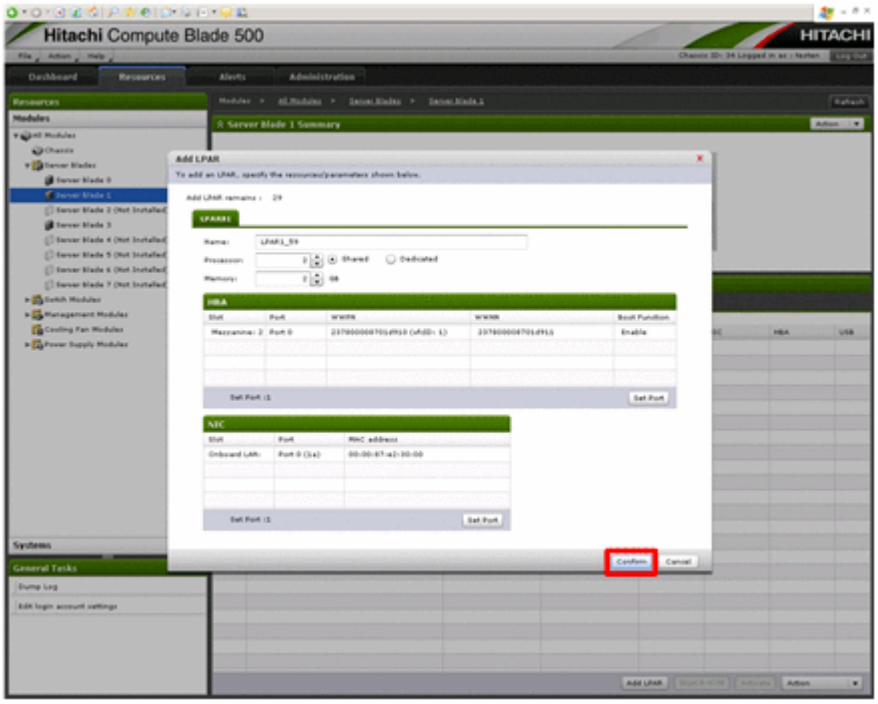
4. Click **Set Port** in **NIC**.



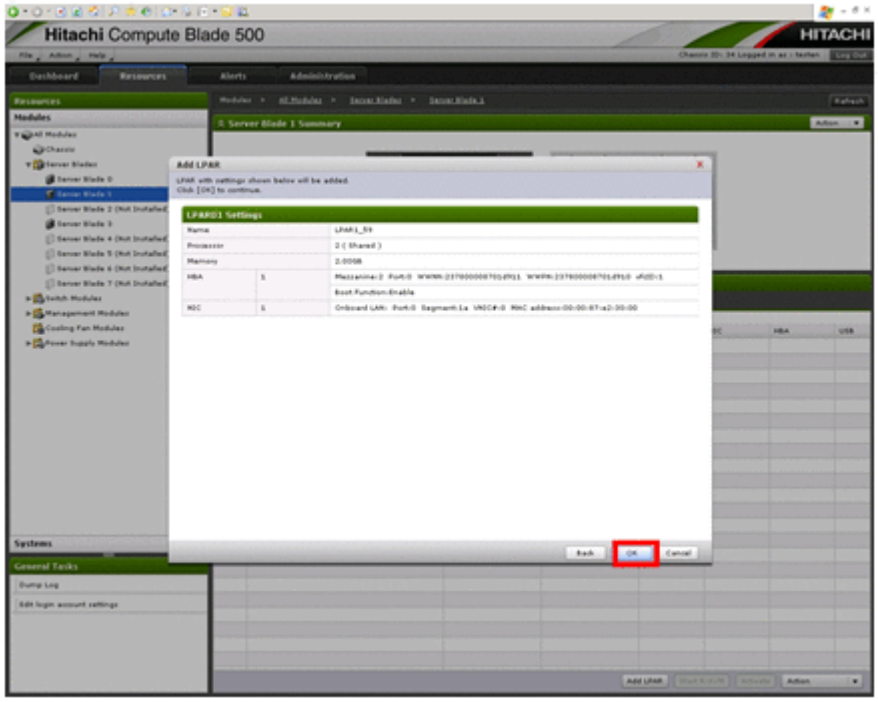
5. Select the network segment and then click **OK**.



6. Click **Confirm**.



7. Click **OK**.



Setting boot order

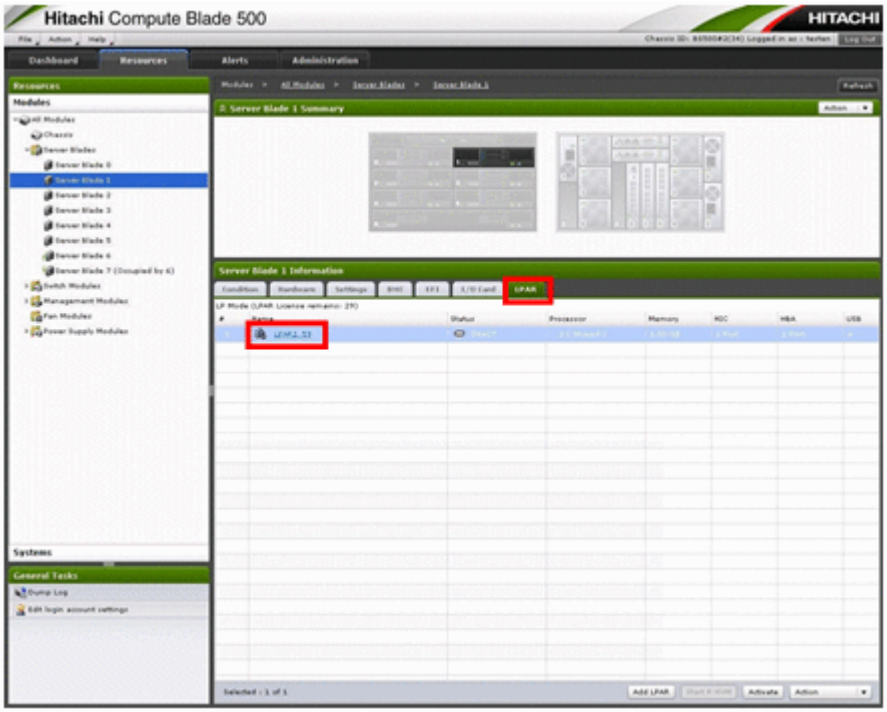
[Management module firmware version A0125 or later]

The following table shows the combinations of server blades and LPAR manager firmware versions for which this operation can be performed.

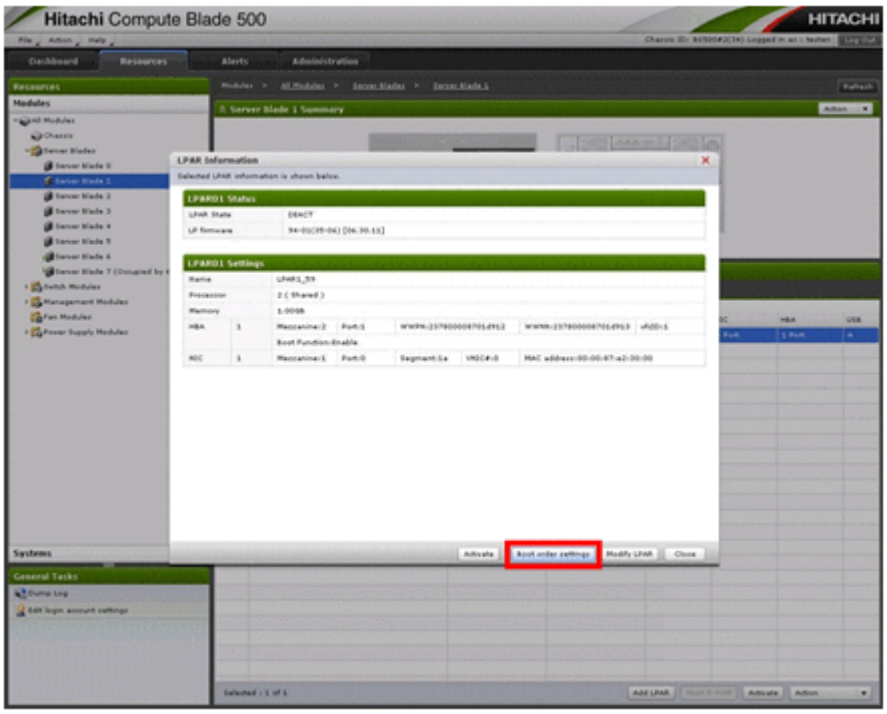
Server blade	LPAR manager firmware version
CB520H	01-0X or later
CB520A	01-1X or later
CB540A	01-2X or later
CB520X	02-02 or later

When using the management module firmware version A0124 or lower, you cannot set the settings. For boot order settings, see *Hitachi Compute Blade 500 Series Logical partitioning manager User's Guide*.

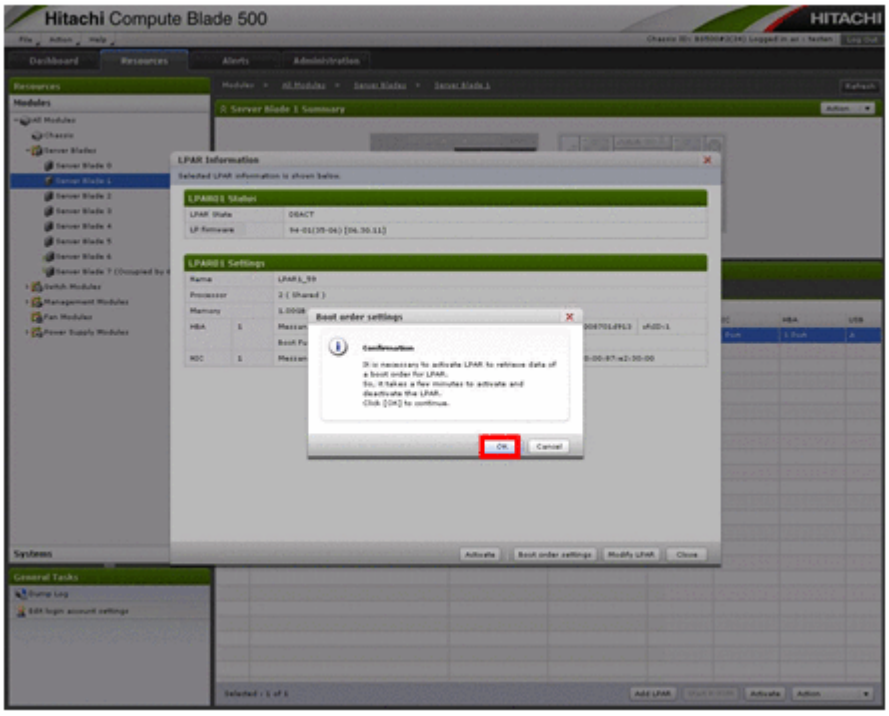
1. Click the target LPAR on the **LPAR** tab.



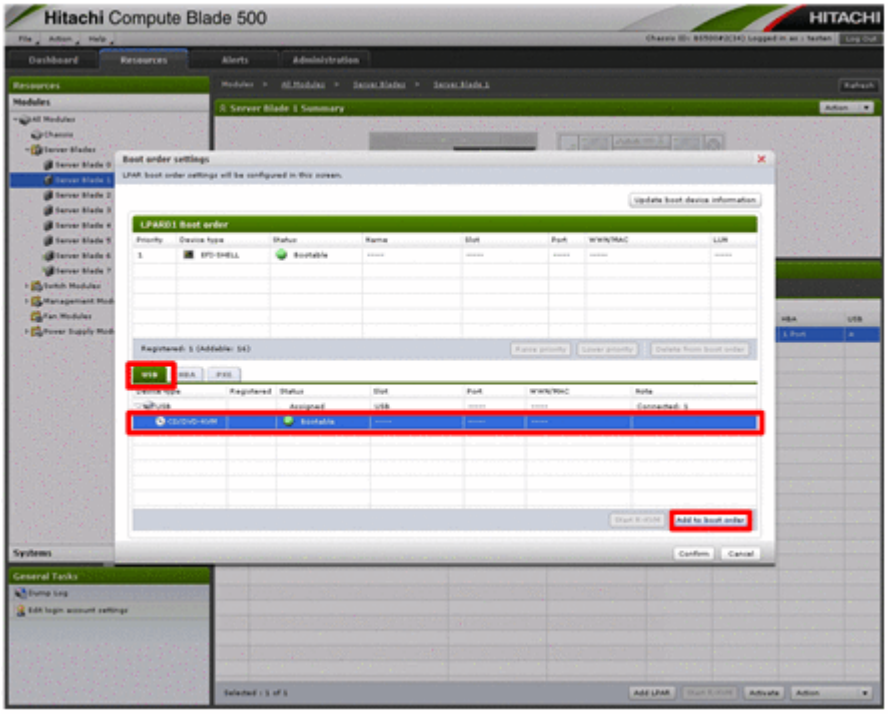
2. Click **Boot order settings**.



3. Click **OK**.

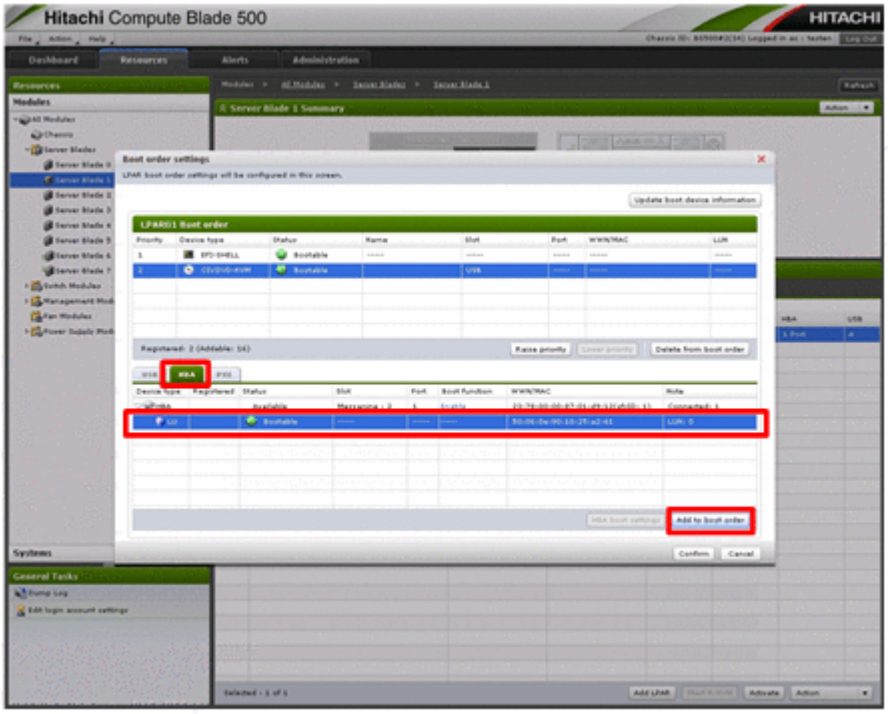


4. Click the target device on the USB tab, and click **Add to boot order**.



Note: If the CD/DVD device is not recognized, set a virtual drive.

5. Click the target device on the **HBA** tab, and click **Add to boot order**.



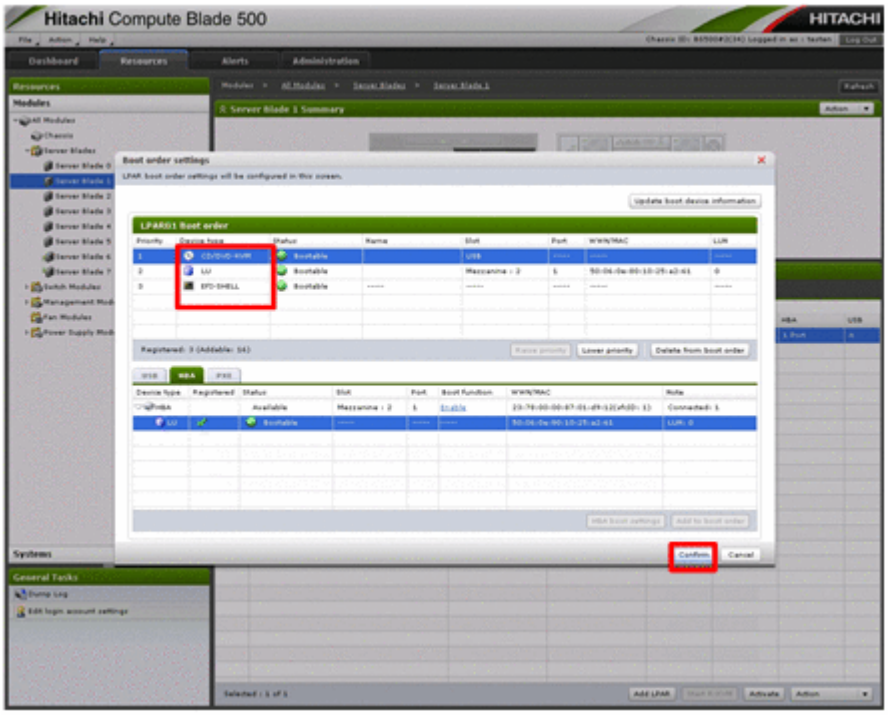
Note: If the HBA device is not recognized, check the disk settings.

Tip:

- If the boot mode is UEFI mode, you do not need to add an HBA device because the device is automatically added to the boot order when the OS is installed.

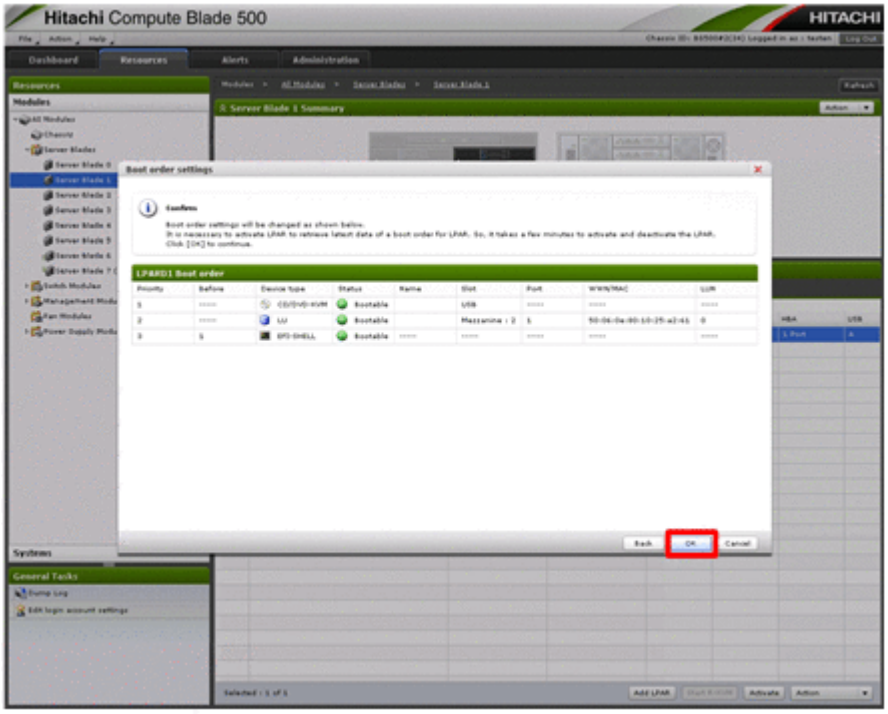
6. Change the boot order as follows, and click **Confirm**.
   When the boot mode is Legacy mode:
   - LU
   - CD/DVD-KVM
   - EFI-SHELL

   When the boot mode is UEFI mode:
   - CD/DVD-KVM
   - EFI-SHELL

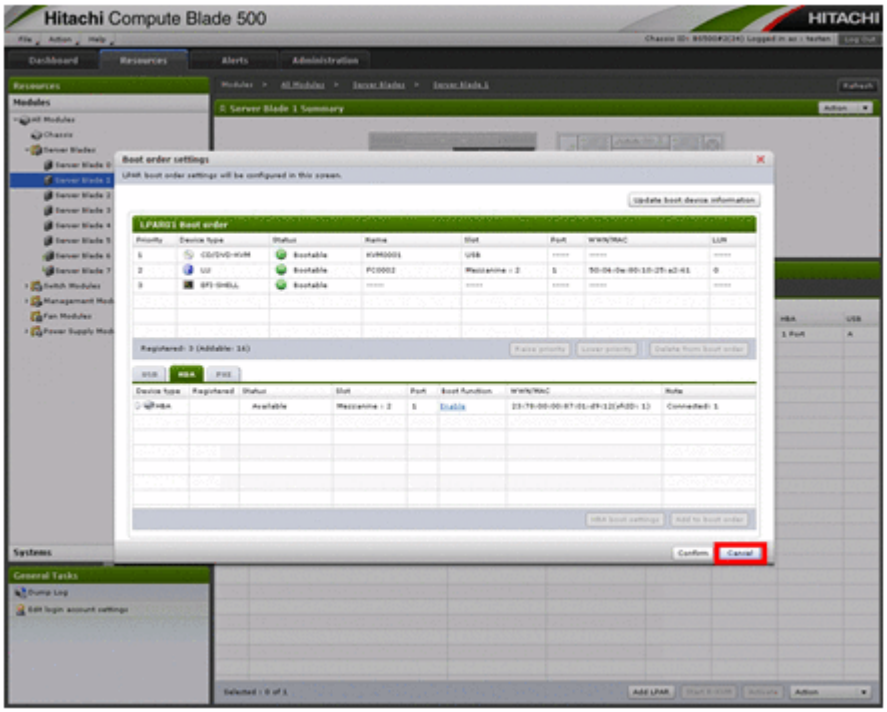


Note: If the CD/DVD device disappears from Boot order, add it to the boot order again.

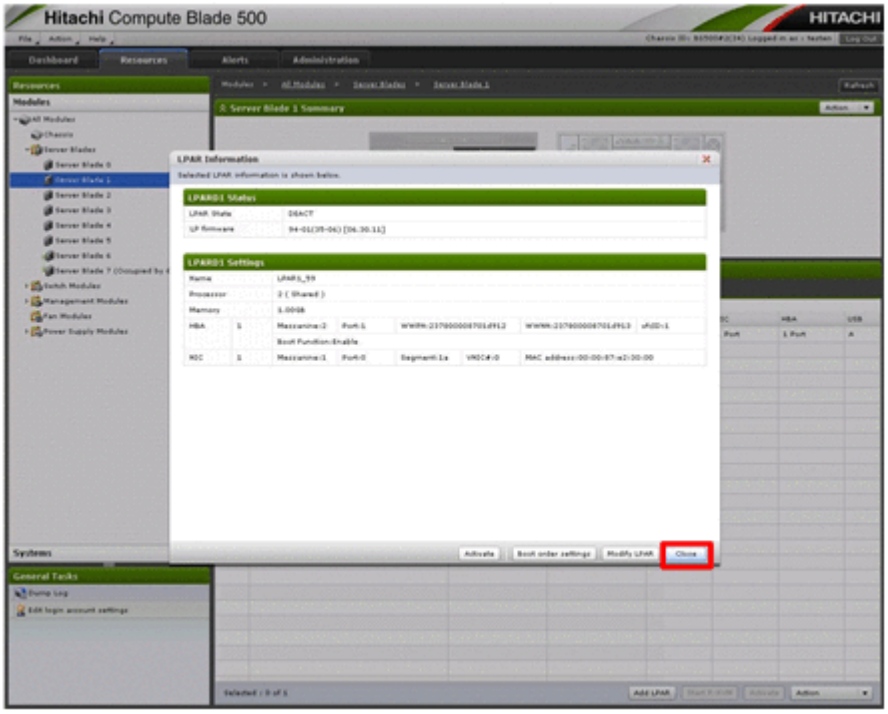
7. Click **OK**.



8. Click **Cancel**.



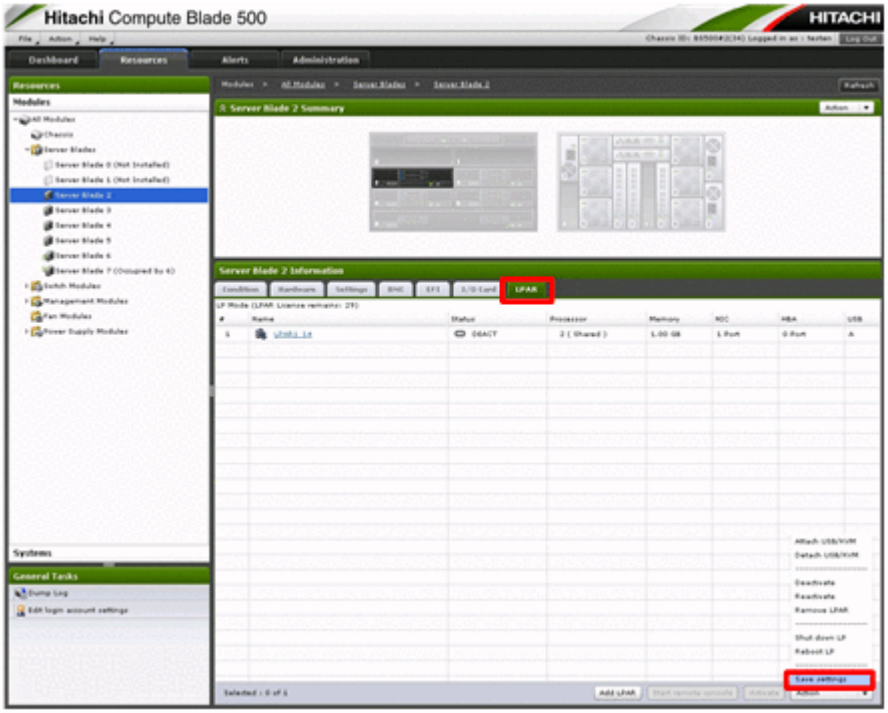
9. Click **Close**.



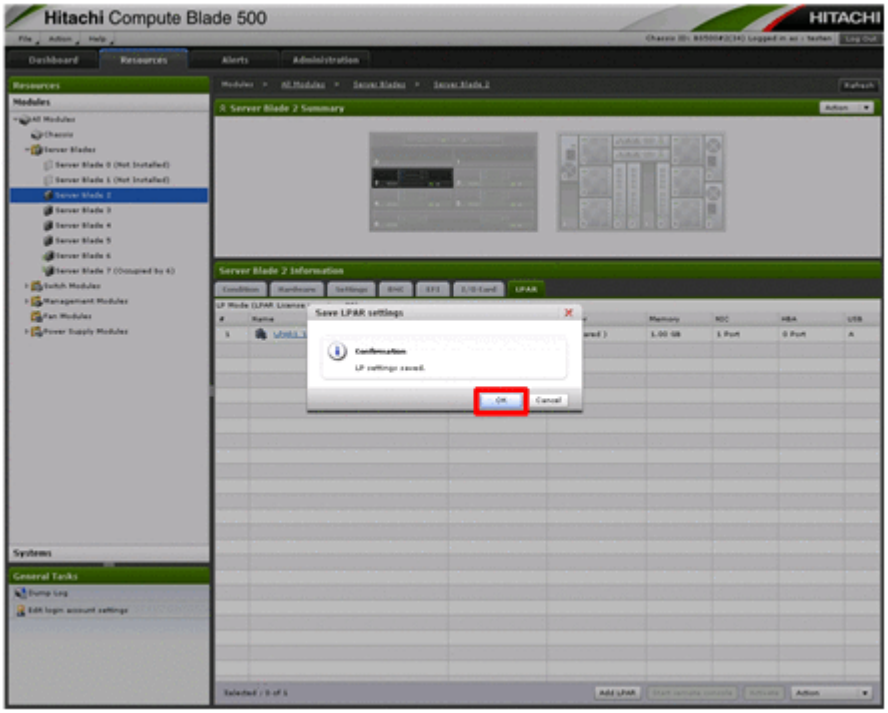
Saving Configuration information

- By saving the configuration LPAR manager will boot with the saved configuration when the next boot.
- If the LPAR manager is shut down or rebooted without saving the configuration, the setting values will be lost.

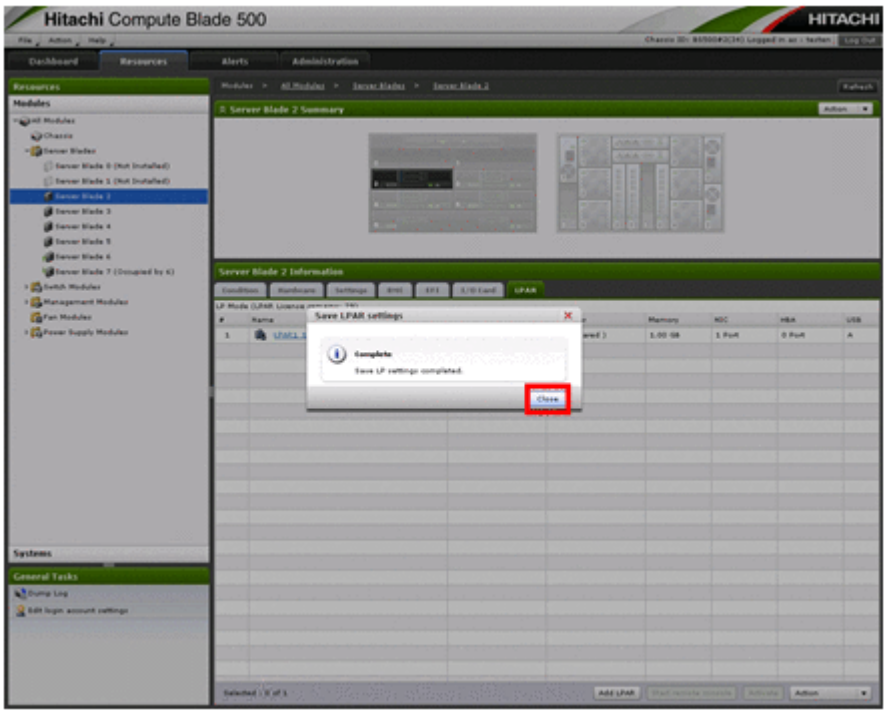
1. Click the **LPAR** tab and then click **Save Settings**.



2. Click **OK** for saving the configuration information.

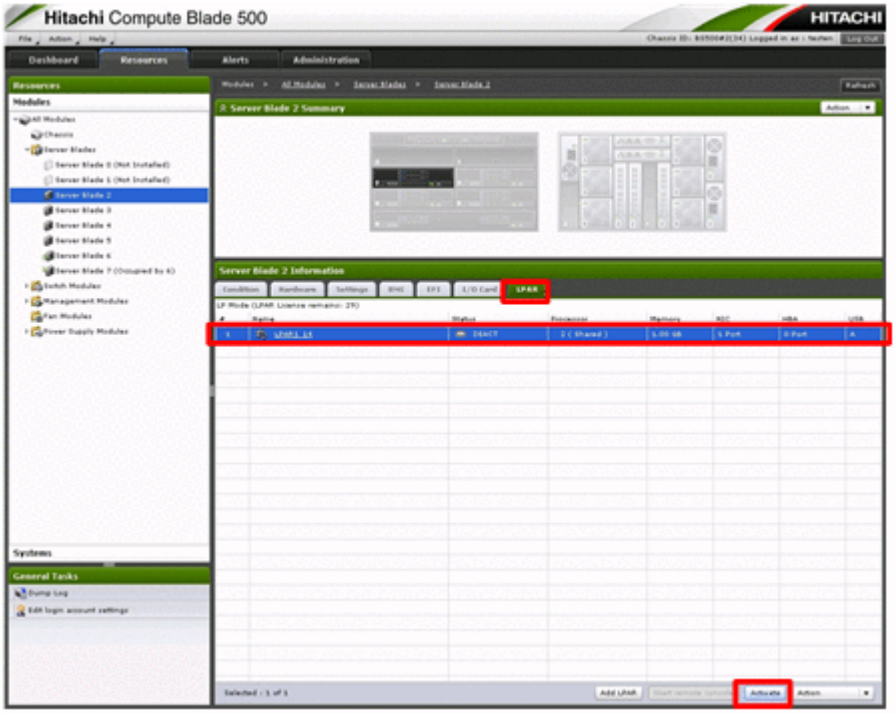


3. Click **Close**.

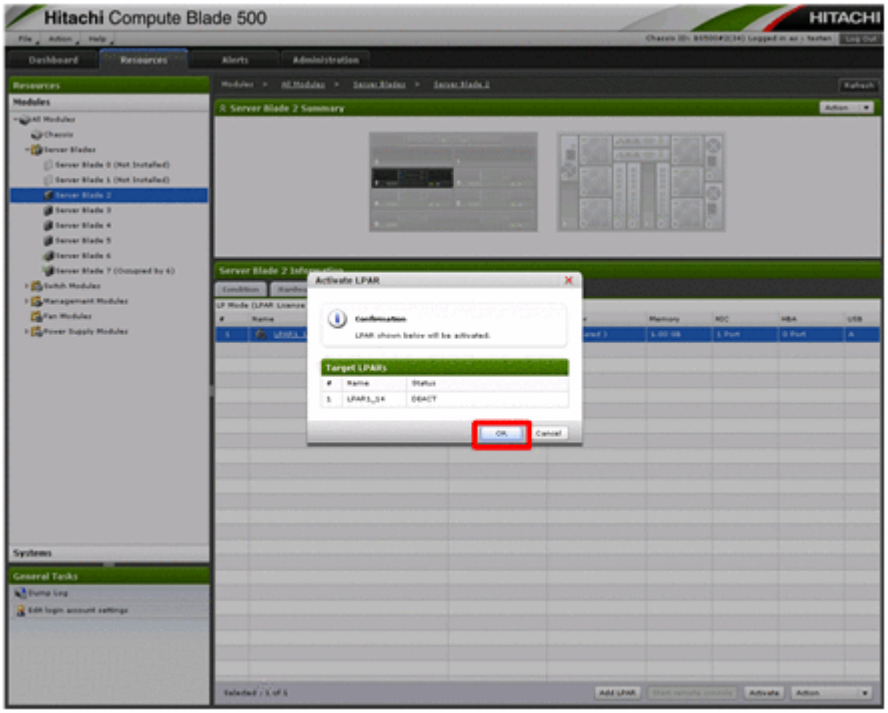


Activating LPAR

1. Click the **LPAR** tab, select an LPAR to activate in lower right **Blade** pane, and then click **Activate**.



2. Click **OK**.



3. If "**Press any key to boot from CD or DVD**" is displayed in the remote console after activating LPAR, press any key.

Tip:

- When pressing a key with a pause, the install tool may start from the CD. In that case, deactivate the LPAR once and activate the LPAR again.
- When pressing a key more than once, Windows Boot Manager may start. In that case, select **Windows Setup [EMS Enabled]** and continue the installation.

Powering off a server blade in LP mode

This section explains the procedures for powering off a server blade.

Execute **OS shutdown** or **Deactivate LPAR** before powering off a server blade, when OS is operating normally.

LPAR Deactivation

LPAR deactivation is performed by **OS shutdown** or **Deactivate LPAR**.

OS shutdown operation is recommended.

OS Shutdown

Execute the OS shutdown operation. LPAR returns deactivated status when the OS shutdown operation finished.

Deactivate LPAR

The Deactivate LPAR operation requires an attention, as this operation is equivalent to the shutdown of the server blade in Basic mode. The disc data may be destroyed if you perform the deactivate LPAR operation during the data access (for example booting OS).

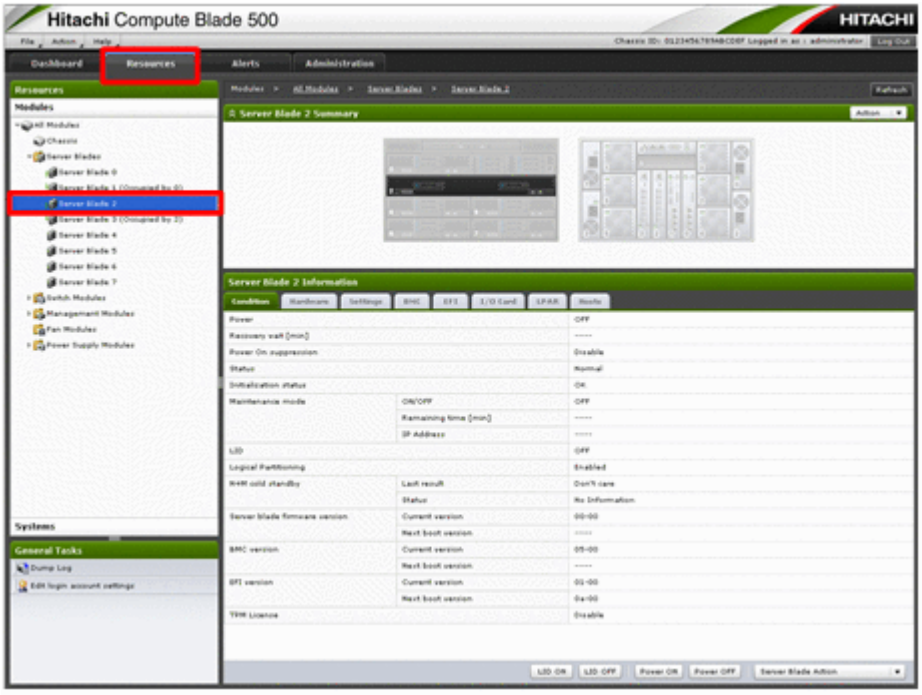
1. Enter the URL `https://`*IP address of the management module*`/` on the address bar of web browser.

Item	Factory default
IP address of the management module	192.168.0.1

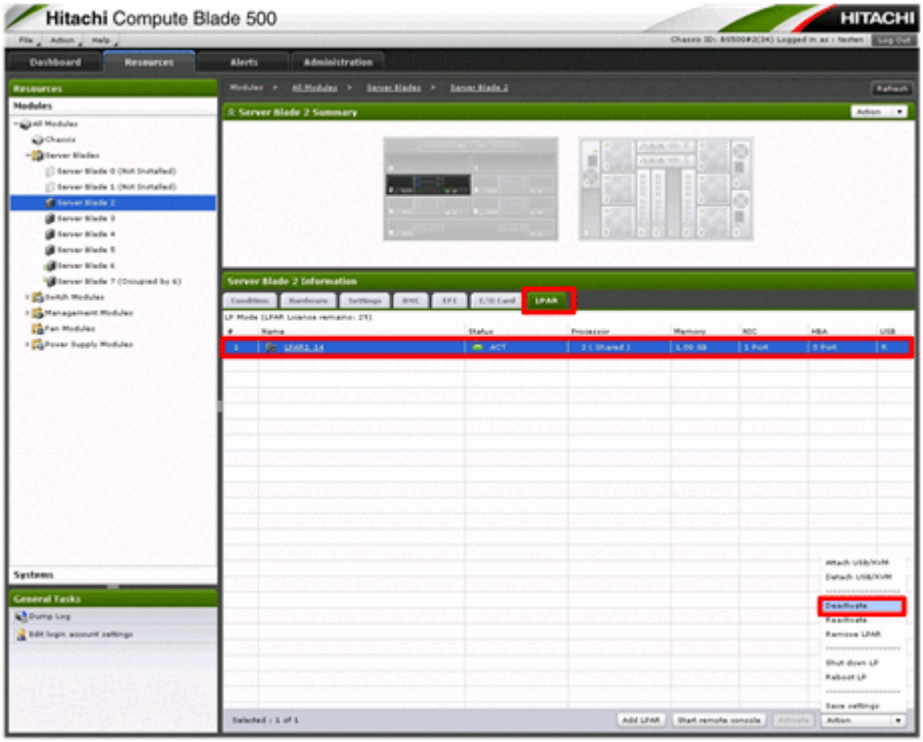
2. Log in to the Web console management module.

Item	Factory default
User account	administrator
Password	password

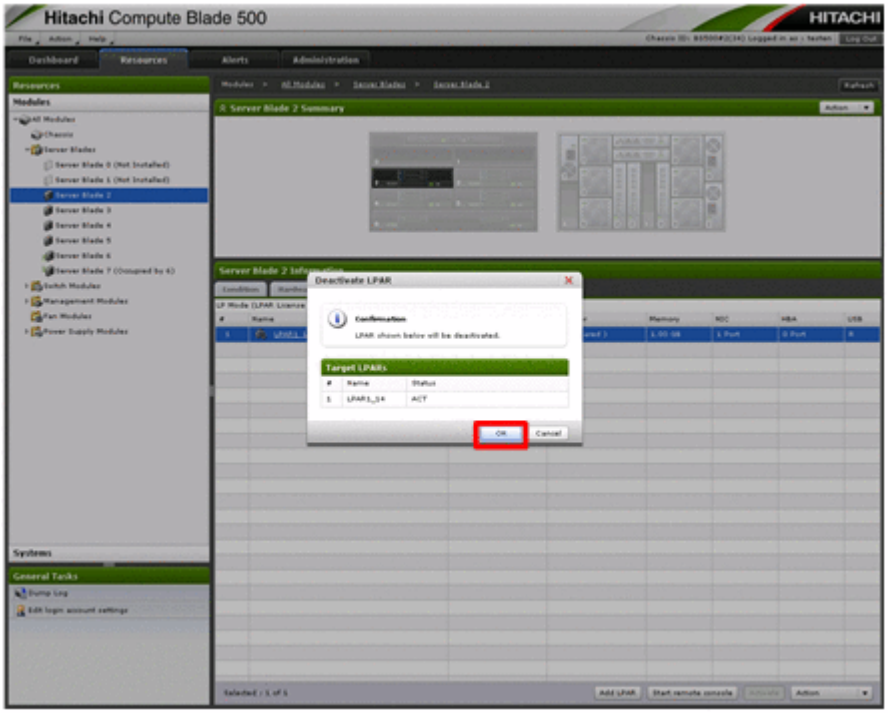
3. Click the **Resources** tab. Then select **Server Blades** from the navigation tree on the left.



4. Click the **LPAR** tab and select the LPAR to deactivate. Then click **Action > Deactivate**.



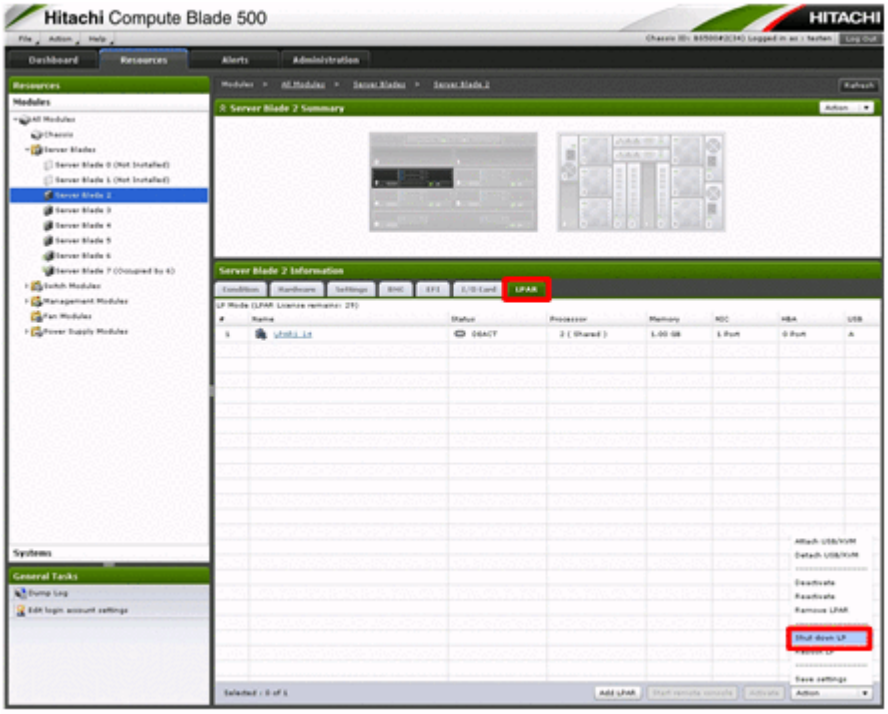
5. Click **OK**.



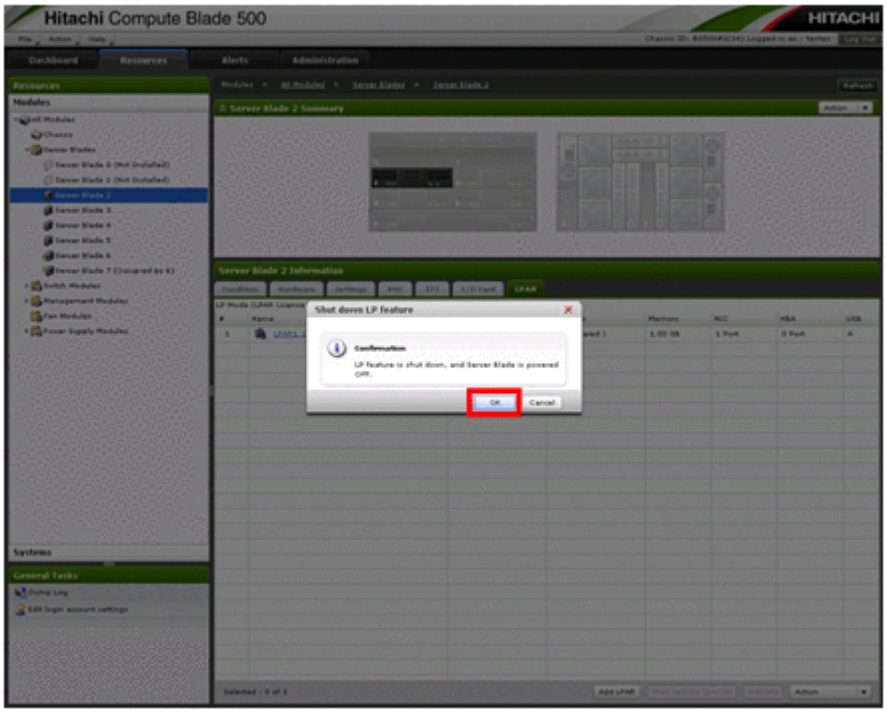
Powering off a server blade

Power off a server blade after LPAR deactivation is finished.

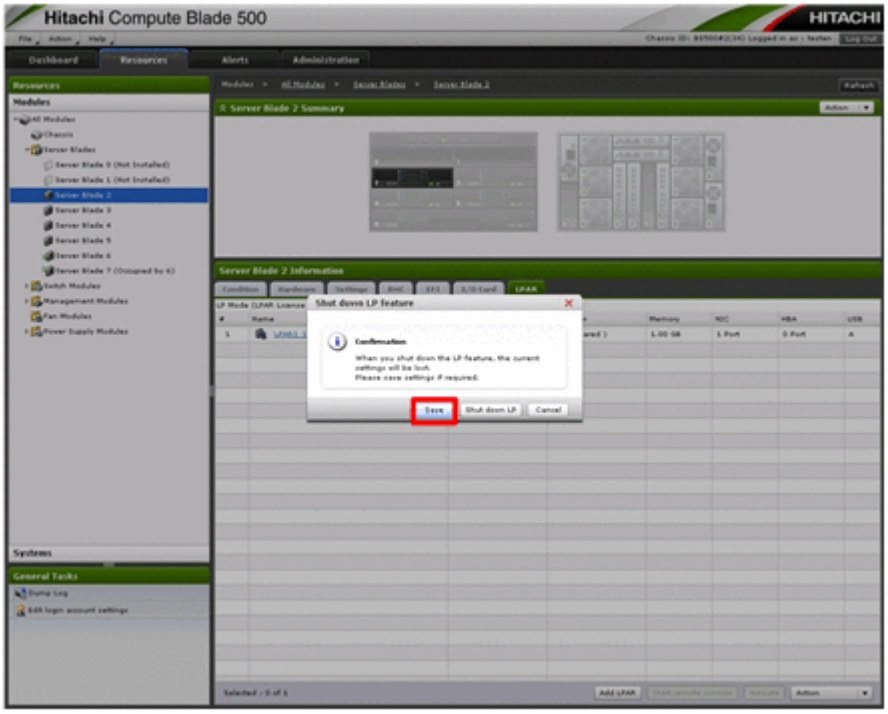
1. Click the **LPAR** tab. Then click **Action > Shut down LP**.



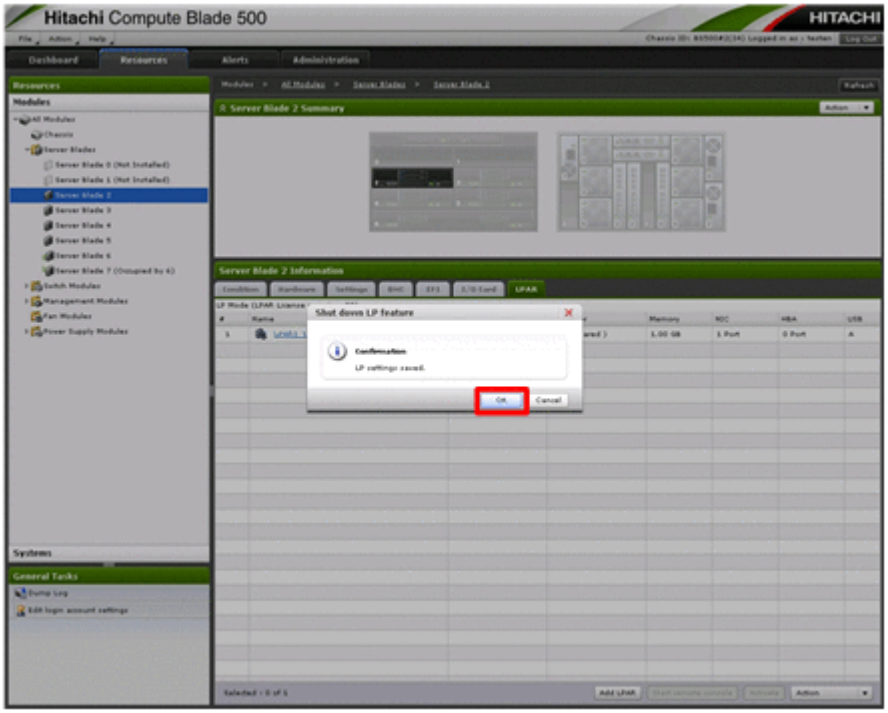
2. Click **OK**.



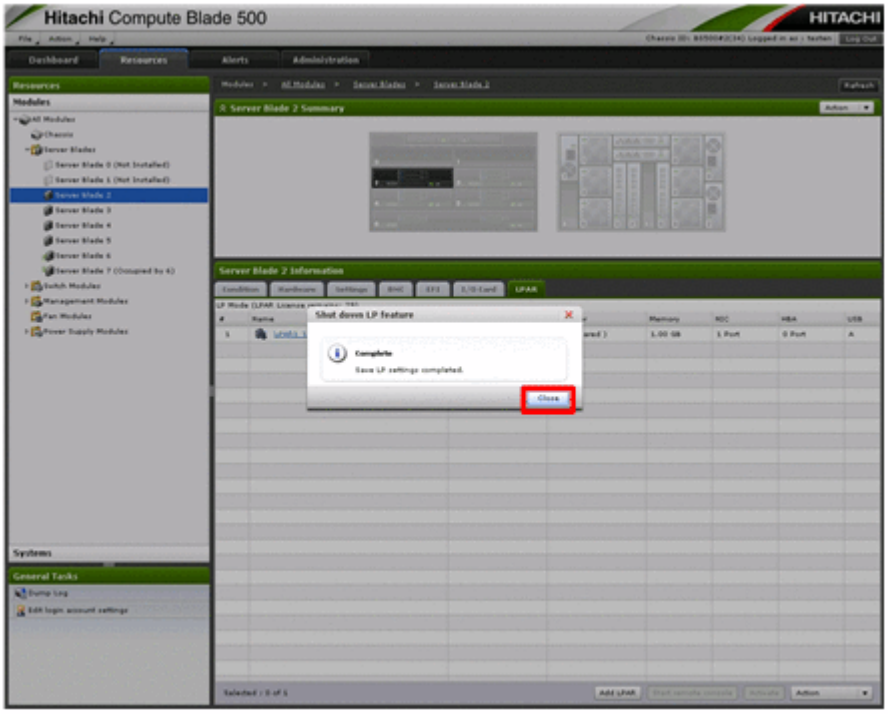
3. Click **Save**.



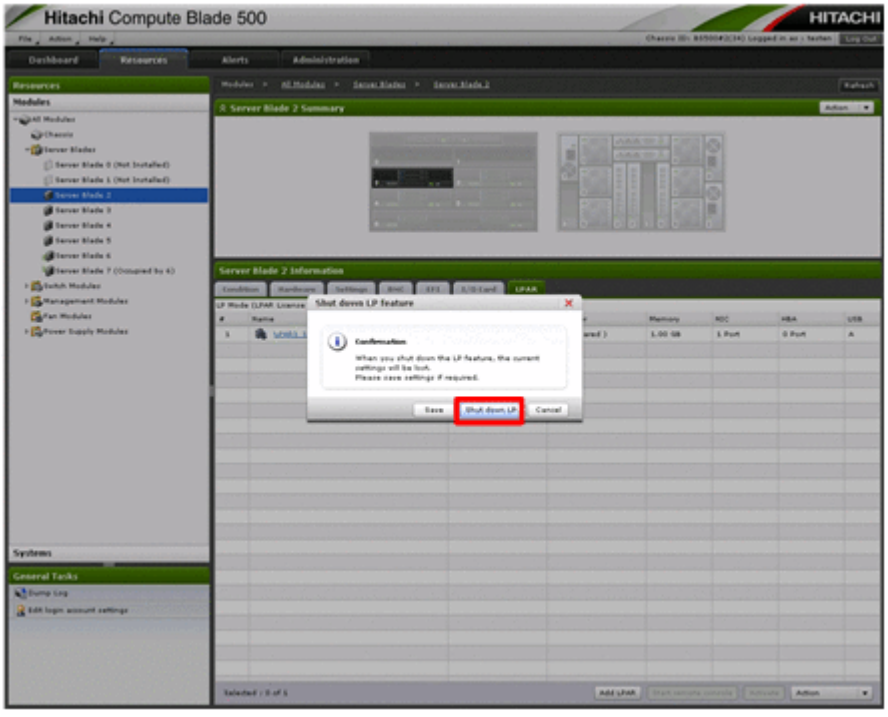
4. Click **OK** and then save the configuration information.



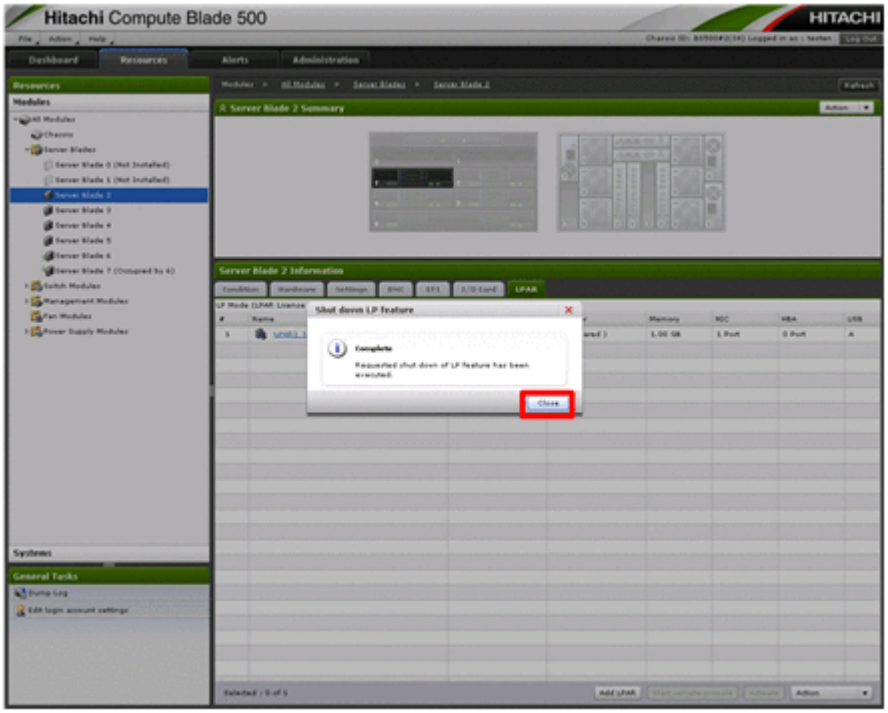
5. Click **Close**.



6. Click **Shut down LP**.



7. Click **Close**.


Hitachi Compute Blade 500
HITACHI
Dashboard
Resources
Alerts
Administration
Server Blade 2 Summary
Server Blade 2 Information
LPAR
Shut down LP feature
Complete
Close

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