Cisco OptoStar II

Network Management System (NMS)

Installation and Operation Guide

For Your Safety

Explanation of Warning and Caution Icons

Avoid personal injury and product damage! Do not proceed beyond any symbol until you fully understand the indicated conditions.

The following warning and caution icons alert you to important information about the safe operation of this product:

This symbol indicates important operating or maintenance instructions.

You may find this symbol affixed to the product. This symbol indicates a live terminal where a dangerous voltage may be present; the tip of the flash points to the terminal device.

You may find this symbol affixed to the product. This symbol indicates a protective ground terminal.

You may find this symbol affixed to the product. This symbol indicates a chassis terminal (normally used for equipotential bonding).

You may find this symbol affixed to the product. This symbol warns of a potentially hot surface.

You may find this symbol affixed to the product and in this document. This symbol indicates an infrared laser that transmits intensity-modulated light and emits invisible laser radiation or an LED that transmits intensity-modulated light.

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

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Contents

Chapter 1 Introduction

Overview

The OptoStar II optical platform is an advanced transmission system, designed to optimize network architectures and increase reliability, scalability, and cost effectiveness.

This chapter provides an introduction to the OptoStar II network management system (NMS).

Purpose

This document provides information about the installation and operation of the OptoStar II network management system.

Who Should Use This Document

This document is intended for authorized service personnel who have experience working with similar equipment. The service personnel should have appropriate background and knowledge to complete the procedures described in this document.

Qualified Personnel

⚠ **CAUTION:**

Allow only qualified and skilled personnel to install and operate this software. Otherwise, equipment damage may occur.

Only appropriately qualified and skilled personnel should attempt to install and operate this software.

Scope

This document discusses the following topics.

- Program Installation
- Program Operation

Document Version

This is the third release of this document.

In This Chapter

Introduction

Description

The OptoStar II network management system (NMS) is an integrated remote management system for the Cisco OptoStar II optical platform. It provides service providers with a centralized management solution for monitoring and configuring CATV related equipment.

The NMS provides functions such as topology management, alarm management, performance management, configuration management, system logs, and security management.

Chapter 2 Installation

Overview

This chapter provides instructions for installing the OptoStar II network management system (NMS).

Qualified Personnel

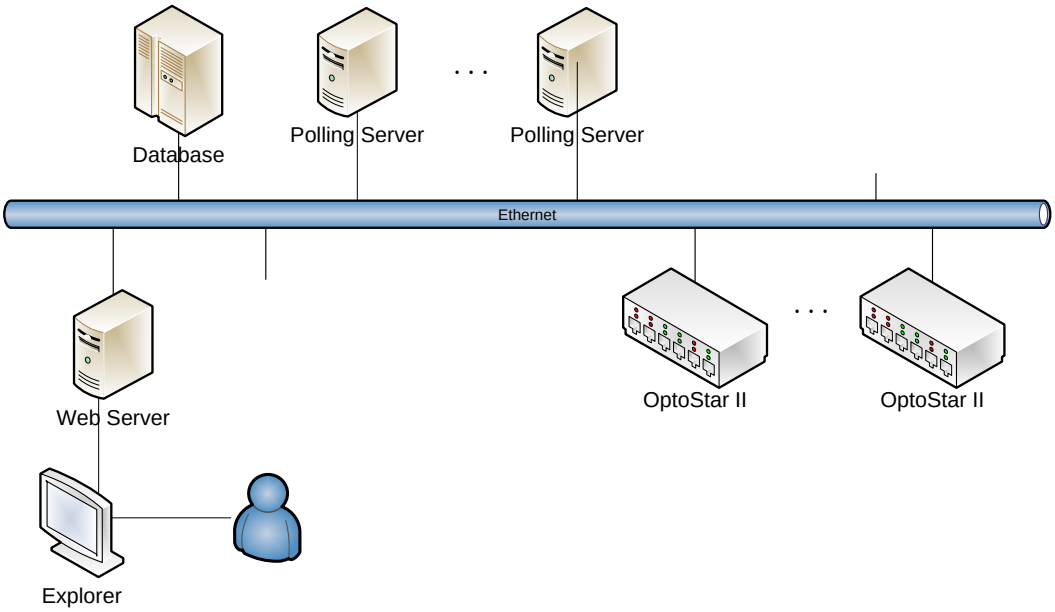
Only appropriately qualified and skilled personnel should attempt to install and operate this software. Otherwise, equipment damage may occur.

In This Chapter

Configuration Requirements

This section introduces the procedures to install the OptoStar II NMS software.

System Structure



System Installation

The installation of the NMS contains three sections: database installation, Web server installation, and polling server installation.

Note: It is recommended to install these 3 programs (database, polling server, and Web server) on different computers.

Database Installation

The OptoStar II NMS requires Microsoft SQL Server as the operating background database.

Note: Microsoft SQL Server can be purchased from Microsoft.

For the SQL Server configuration for installing Microsoft SQL Server, see ***Appendix II*** (on page 2-12).

Continued on next page

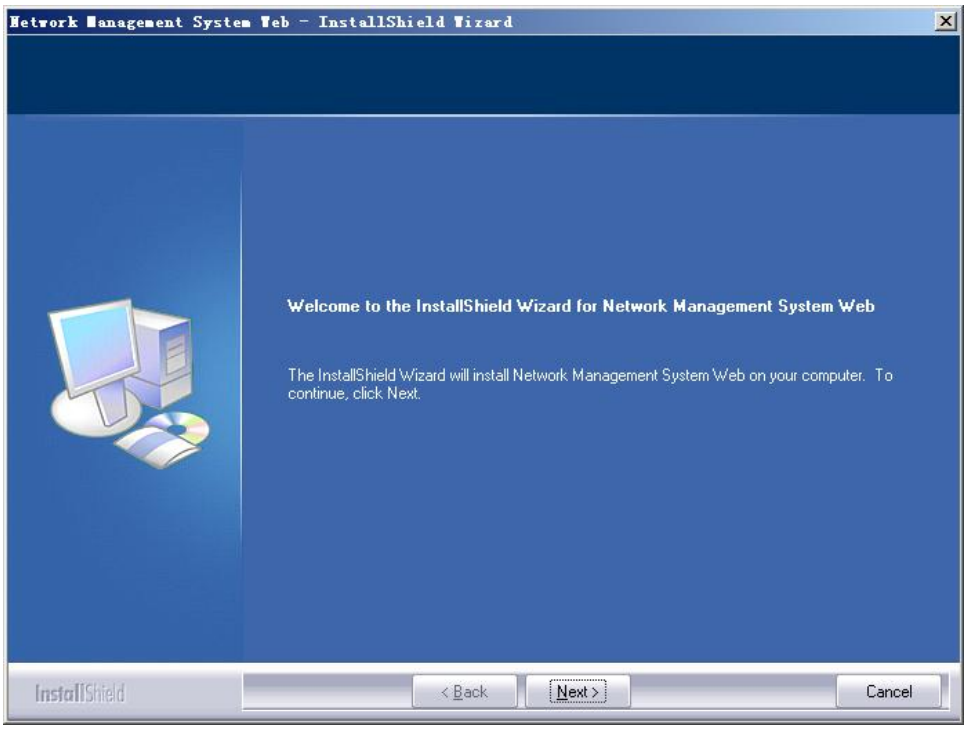
Web Server Installation

System Requirements

- **Supported operation system:** Windows 7, Windows Vista, and Windows Server 2003
- **Processor:** 400 MHz Pentium or equivalent processor (minimum configuration); 1 GHz Pentium or equivalent processor (recommended configuration)
- **Memory:** 96 MB (minimum configuration); 256 MB (recommended configuration)
- **Hard drive:** 500 MB free space required
- **Monitor:** 800 x 600, 256-color (minimum configuration); 1024 x 768 high color, 32-bit (recommended configuration)

Installation Procedures

1. Verify if the IIS 6.0 or higher has been installed. For enabling IIS in Windows 7, see ***Appendix I*** (on page 2-10).
2. Run the installer CISCO_NMS_Web.exe, and follow the installation wizard.



Click Next.

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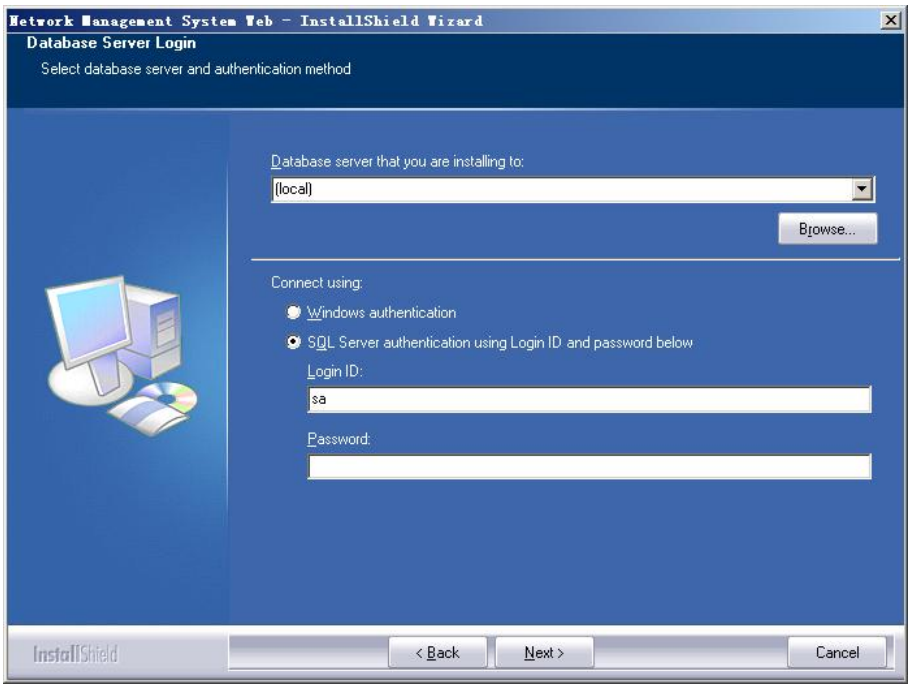
3. Fill in the database login information.

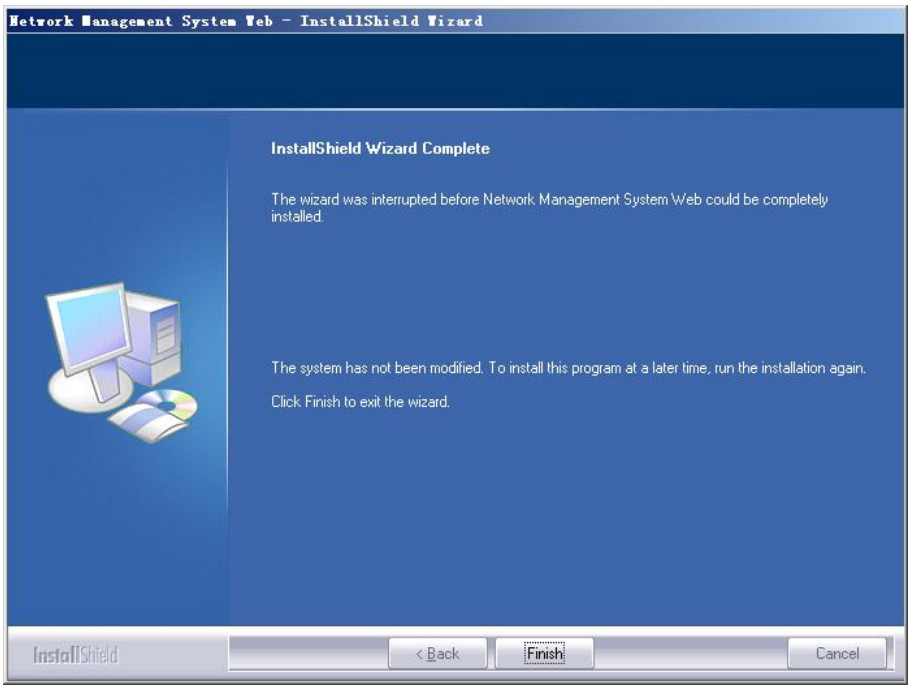


a. Enter the IP address where the database is located. (Note: "local" stands for the local machine.)

b. Select the account to log in the database.

- Windows authentication
- SQL Server authentication (Login ID and password required)

c. Click Next.



Click Finish to complete the installation.

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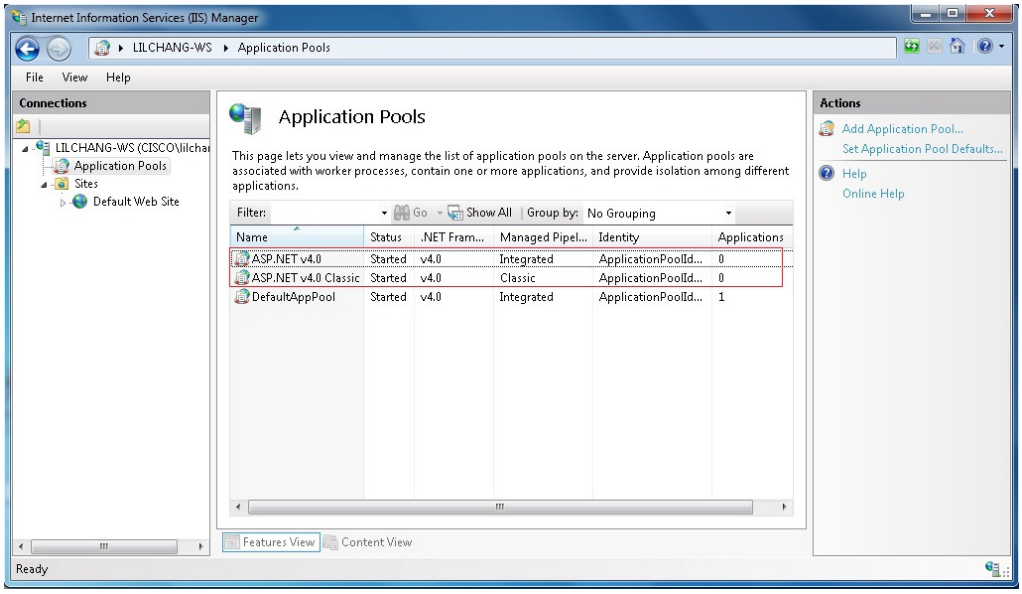
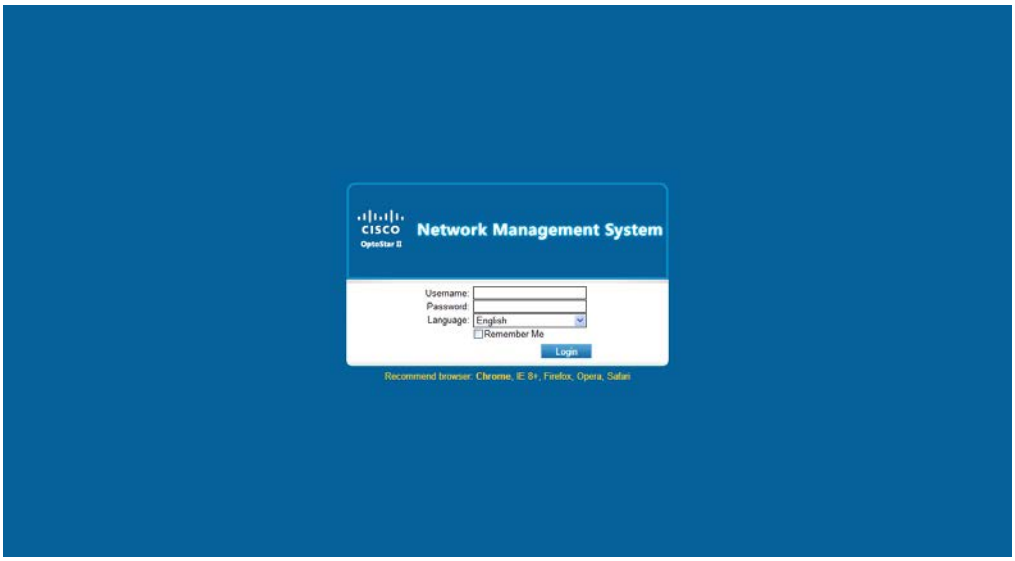
4. Verify if the installation is successful (taking Windows 7 as an example): start -> Control Panel -> Administrative Tools -> Internet Information Services (IIS), as shown below:



   a. Expand the left list, select App-Pool, and look for ASP.NET v4.0 and ASP.NET v4.0 Classic on its right side. If they're missing, see ***Error 1 in the Troubleshooting chapter*** (on page 4-2).
   b. Check if the NMS_WEB node has been created on the left. If not, reinstall the program.
   c. Verify if the new site has been enabled. See the illustration below.

5. Test web connection.

   Launch a web browser (this software doesn't support IE6 or IE7). Enter the IP address of the NMS Web server. The following login screen shows that the site has been successfully created (initial username and password: admin).



Continued on next page

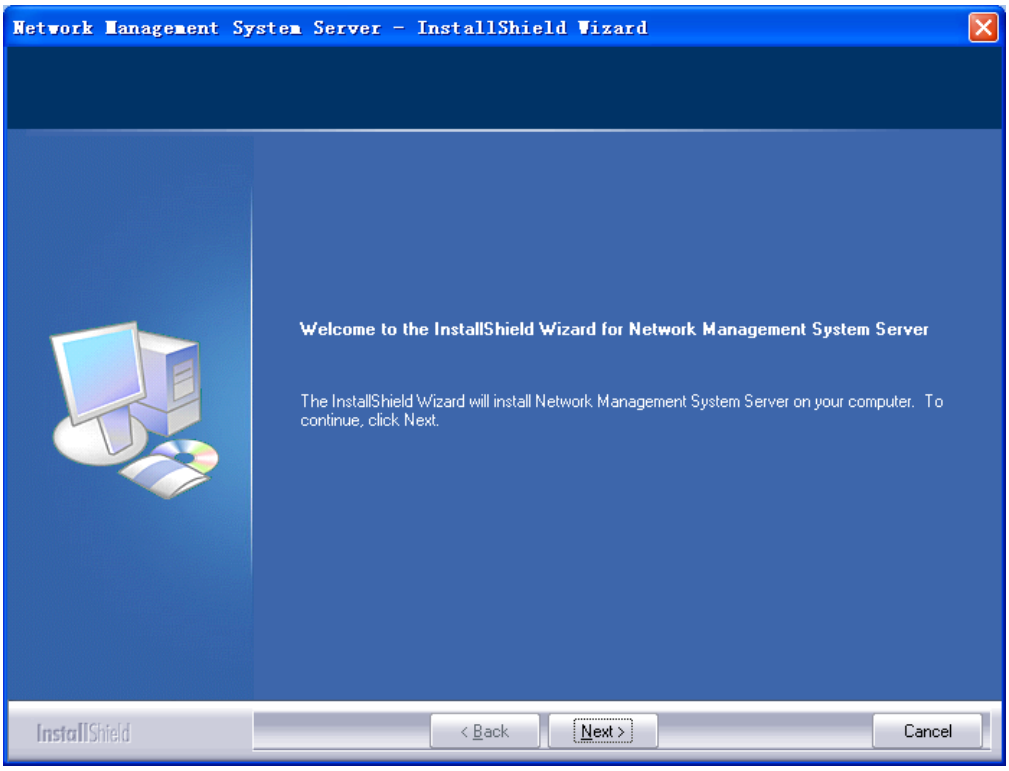
Polling Server Installation

System Requirements

- **Supported operation system:** Windows 7, Windows Vista, Windows Server 2003, and Windows XP
- **Processor:** 400 MHz Pentium or equivalent processor (minimum configuration); 1GHz Pentium or equivalent processor (recommended configuration)
- **Memory:** 96 MB (minimum configuration); 256 MB (recommended configuration)
- **Hard drive:** 500 MB of free space required
- **Monitor:** 800 x 600, 256-color (minimum configuration); 1024 x 768 high color, 32-bit (recommended configuration)

Installation Procedures

1. Run the installer CISCO_NMS_Server.exe, and follow the installation wizard.



Click Next.

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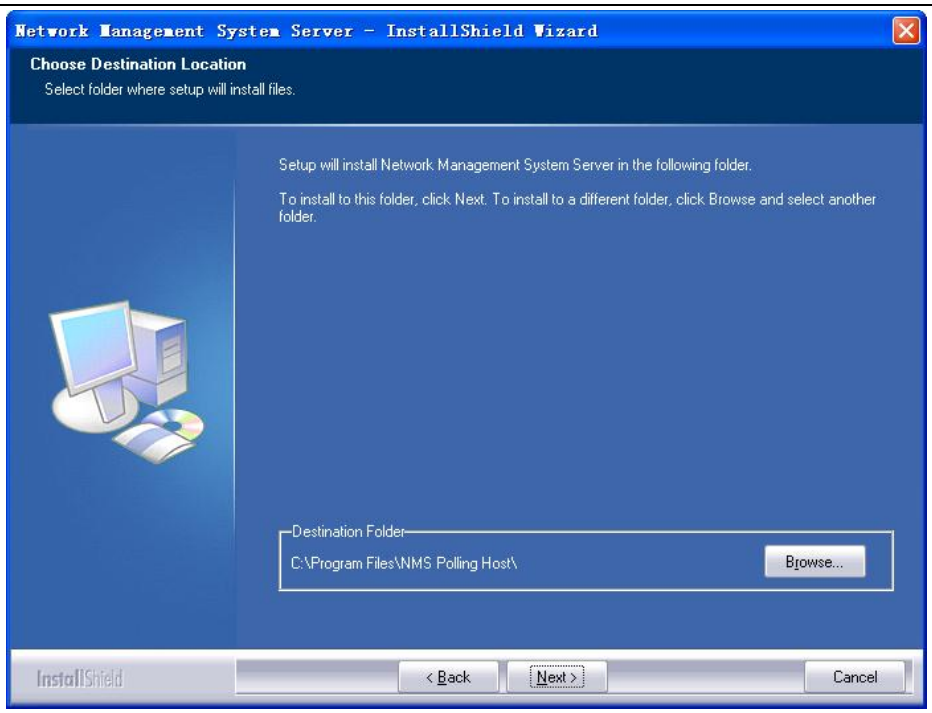
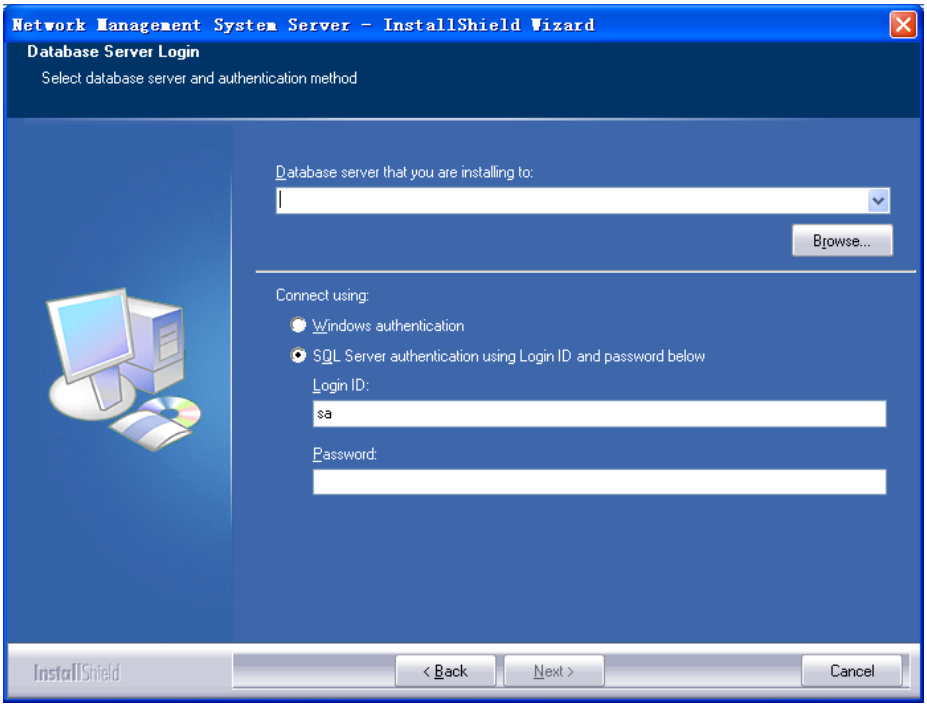


2. Select destination folder for the installation. To install to the default folder, click Next.

Note: The default installation folder is C:\Program Files\NMS Polling Host\.



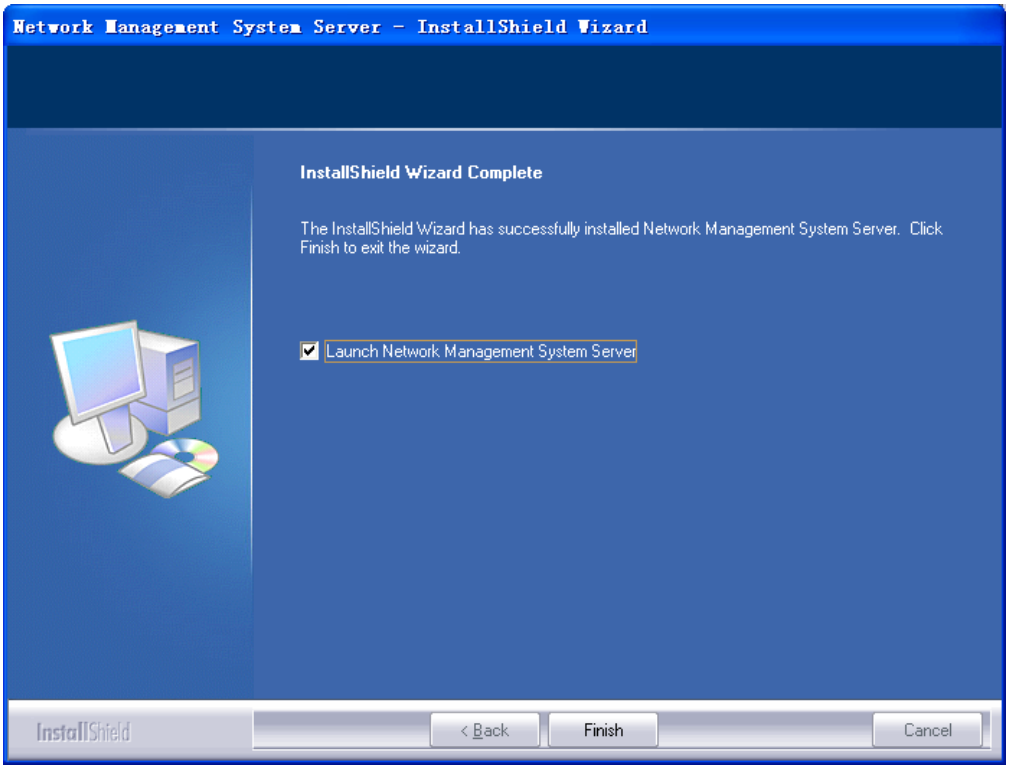
a. Enter the IP address where the database is located. (Note: “local” stands for the local machine.)

b. Select the account to log in the database.

- Windows authentication
- SQL Server authentication (Login ID and password required)

c. Click Next.

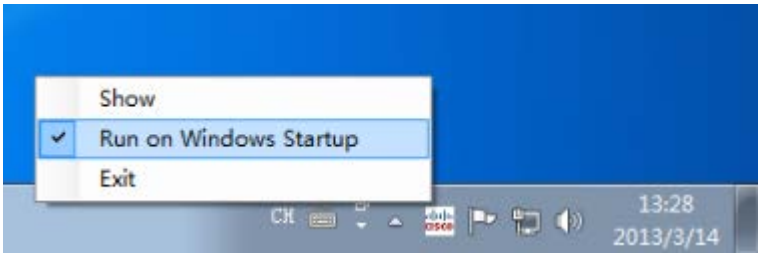
Continued on next page



Check the "Launch Network Management System Server" check box and click Finish to complete the installation.

3. Run the program after installation is complete.

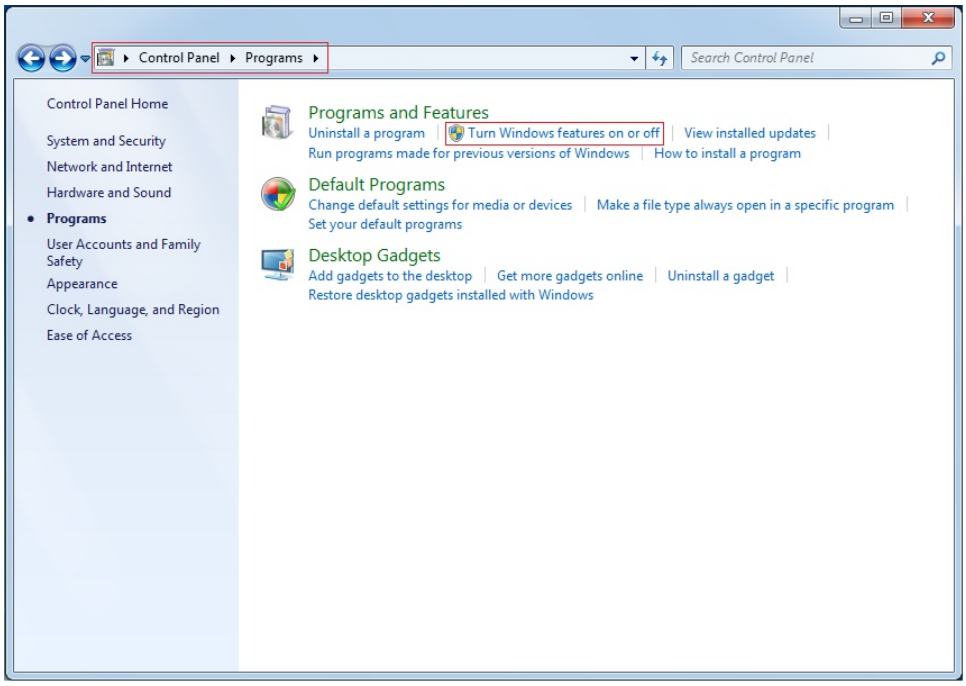
Note: To launch the polling server program automatically when the system starts up, right click the program icon and check "Run on Windows Startup" as shown below.



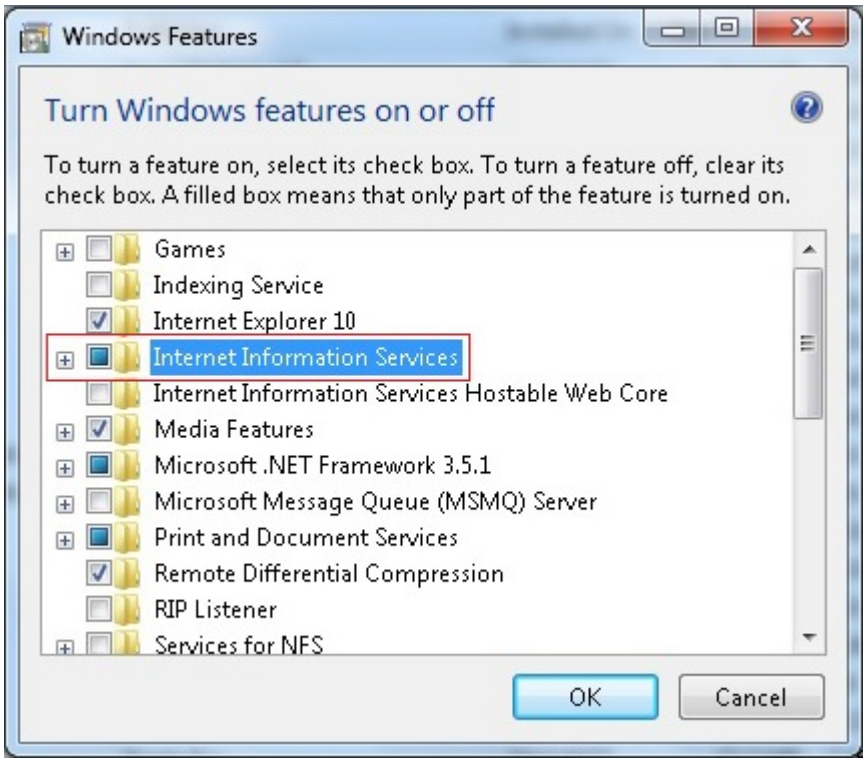
Note: Due to the User Account Control (UAC) restriction in Windows 7, the program will not run on Windows startup. Reboot the computer and run Network Management System.exe in the installation folder.

Enable IIS in Windows 7

1. Click Start, and select Control Panel -> Programs -> Turn Windows features on or off.



2. Check the "Internet Information Services" check box and keep the sub-nodes remaining in their default statuses.



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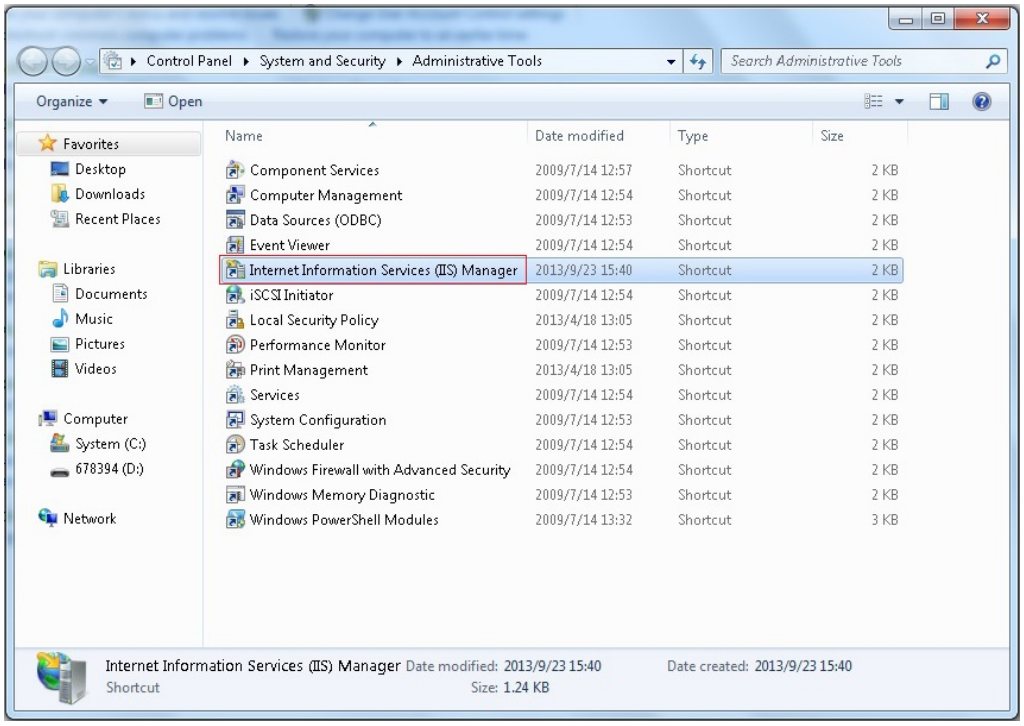
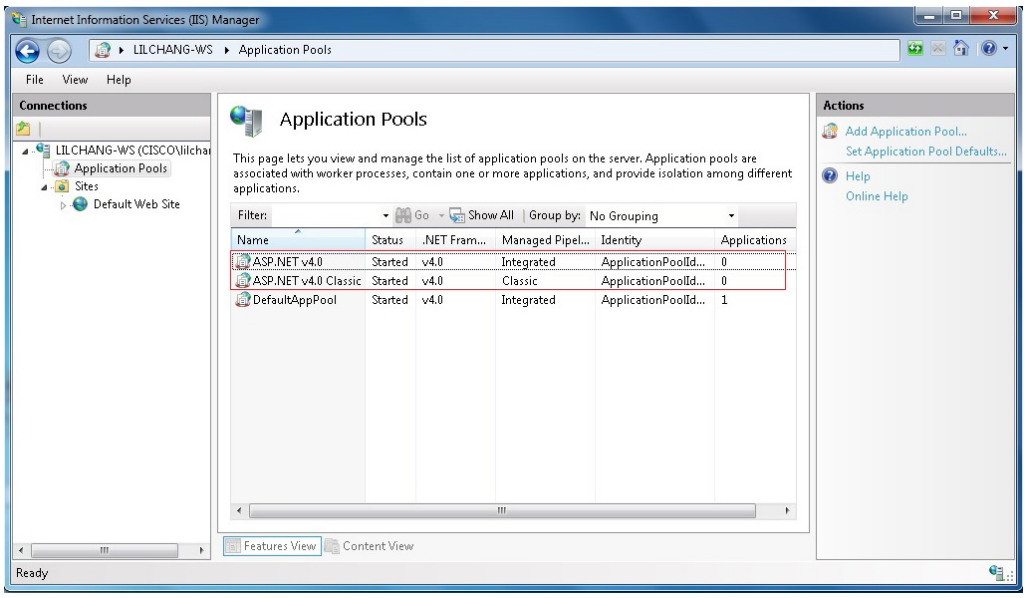
3. Go to Control Panel -> System and Security -> Administrative Tools, and look for Internet Information Services (IIS) Manager as shown below.



4. Click to launch Internet Information Services (IIS) Manager, and configure the IIS as shown below.

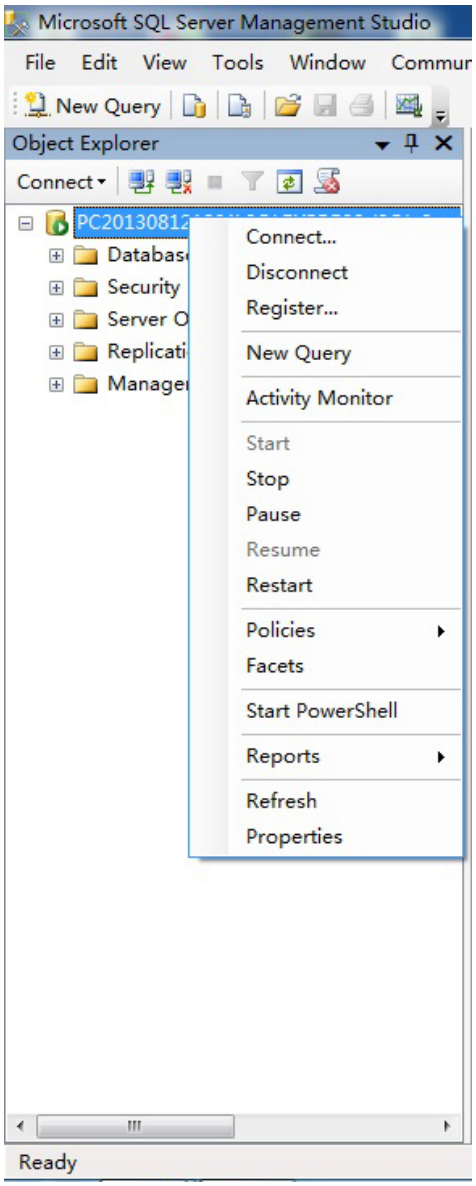


To Enable Remote Connections in SQL Server

This section takes SQL Server 2008 as an example. SQL Server 2008 doesn't allow remote connections by default, and "sa" account is disabled by default. To enable local connections to SQL Server 2008 on a remote server using SSMS, two parts of configuration need to be performed:

1. SQL Server Management Studio (SSMS)
2. SQL Server Configuration Manager (SSCM)

   Step 1: Launch SSMS on the computer where SQL Server 2008 is installed. Connect to the database using Windows identity. Once logged in, right click and select Properties.



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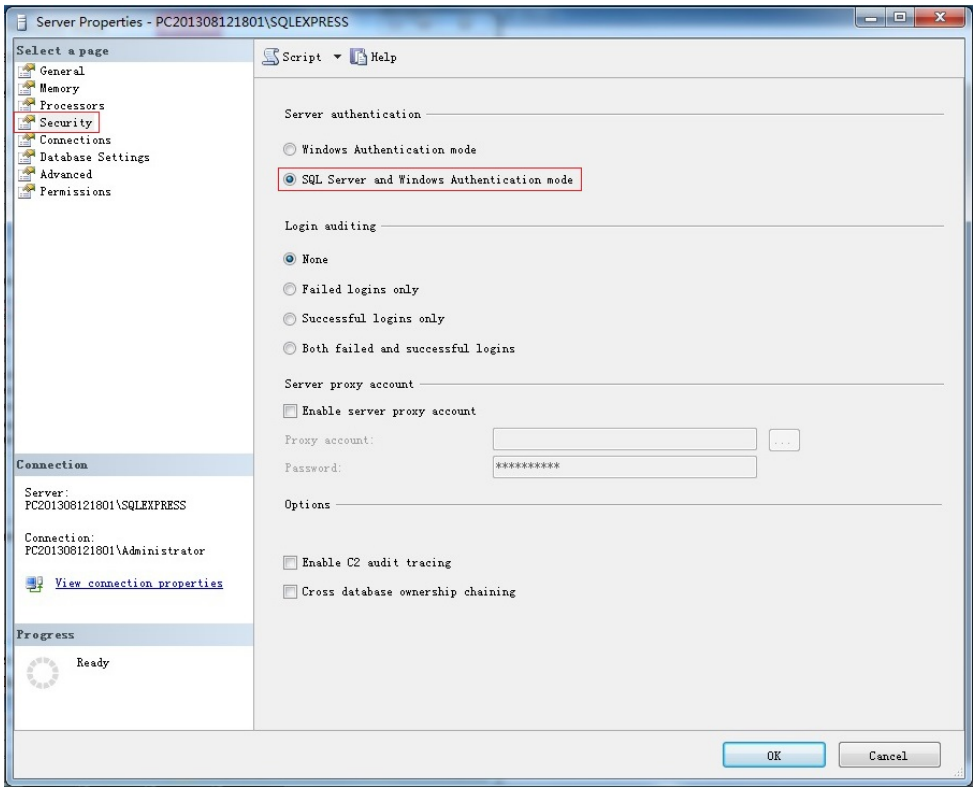
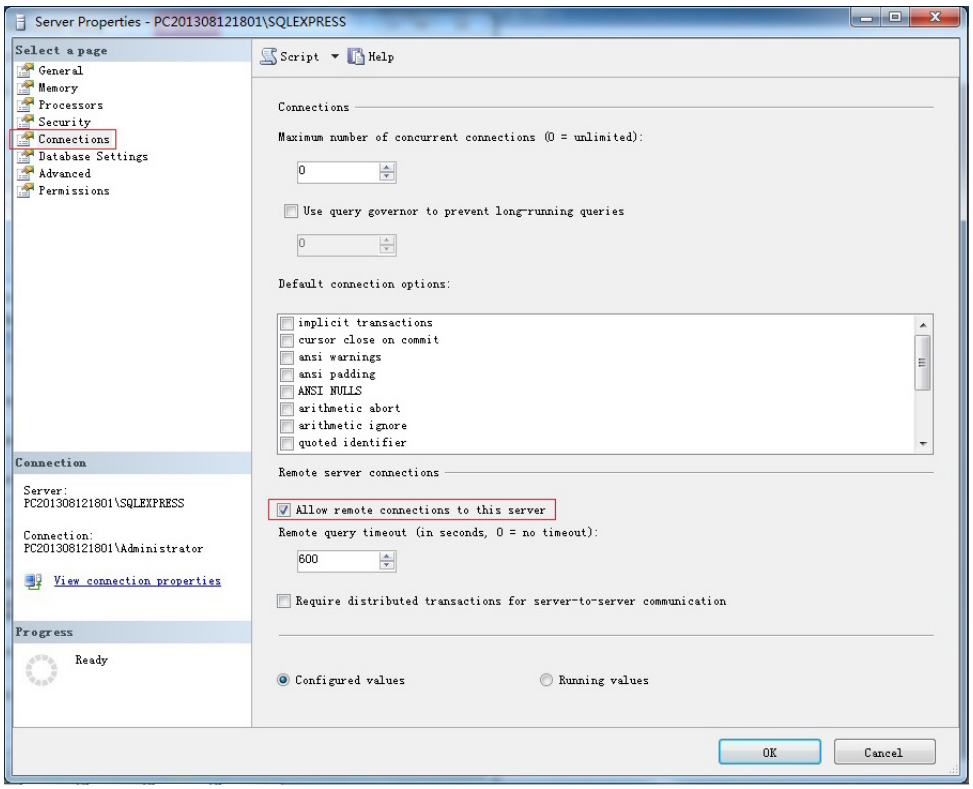
Step 2: Select Security on the left, then "SQL Server and Windows Authentication mode" on the right.



Step 3: Click Connections and check the "Allow remote connections to this server" checkbox, then click OK.



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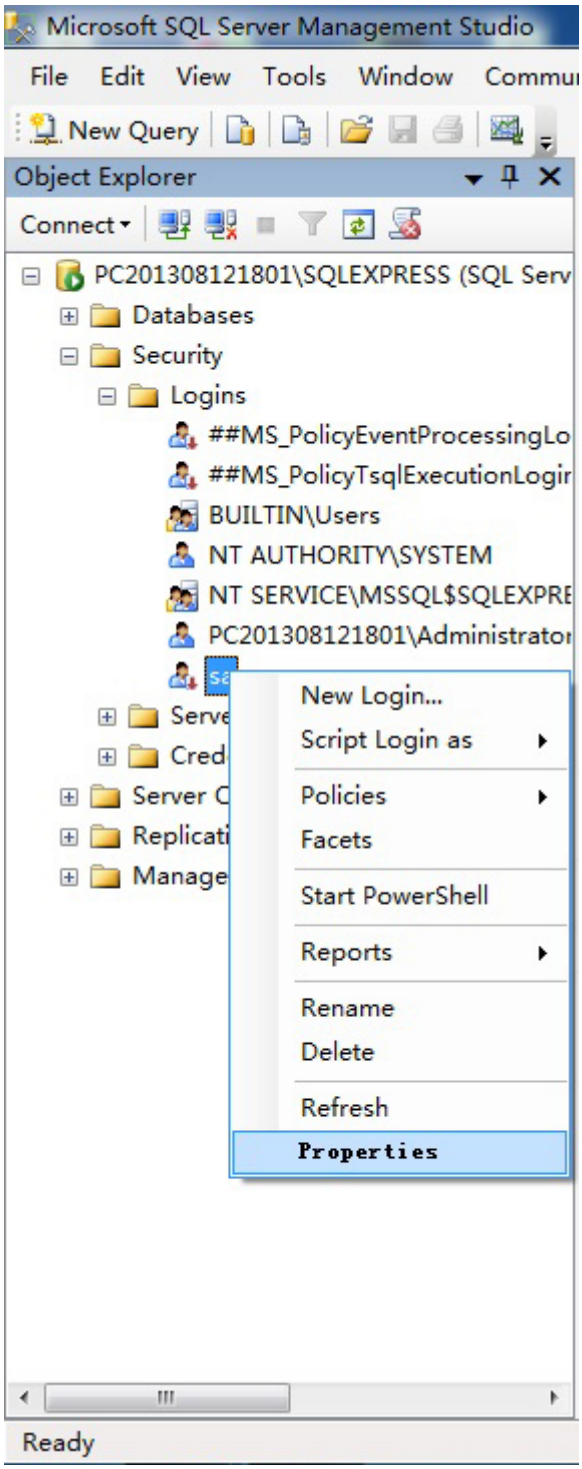
Step 4: Expand Security -> Logins -> sa, and right click to select Properties.



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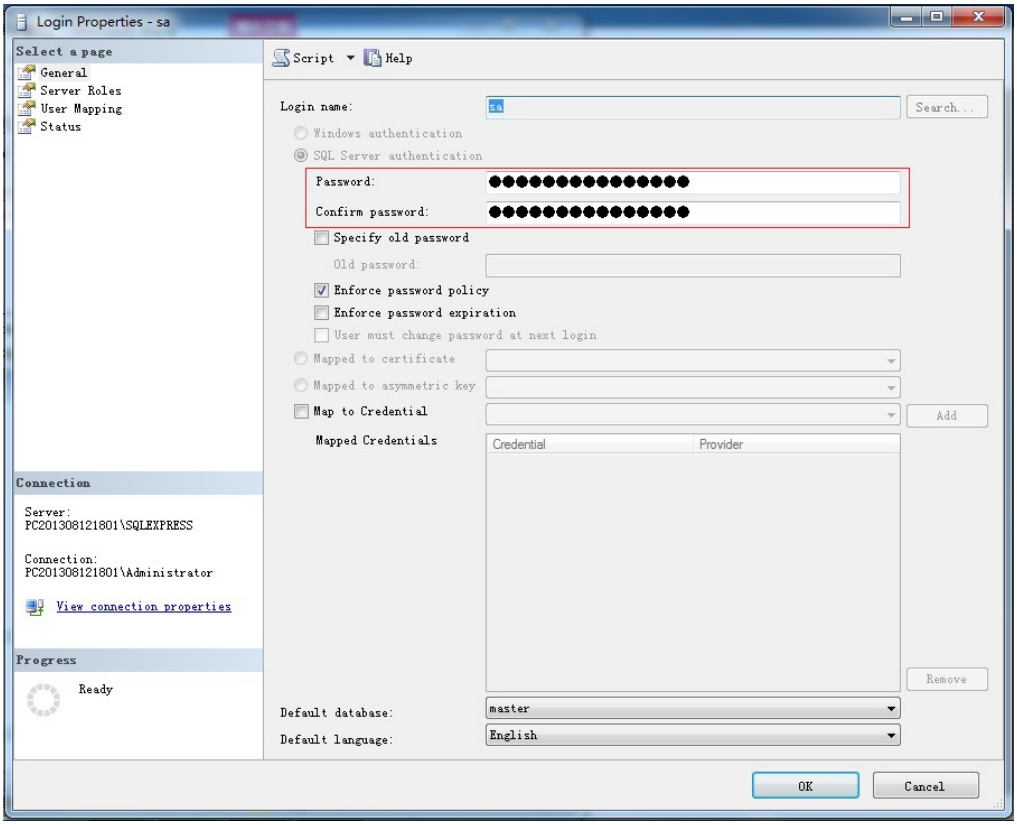
Step 5: Click General on the left and select “SQL Server authentication” on the right to set up password.



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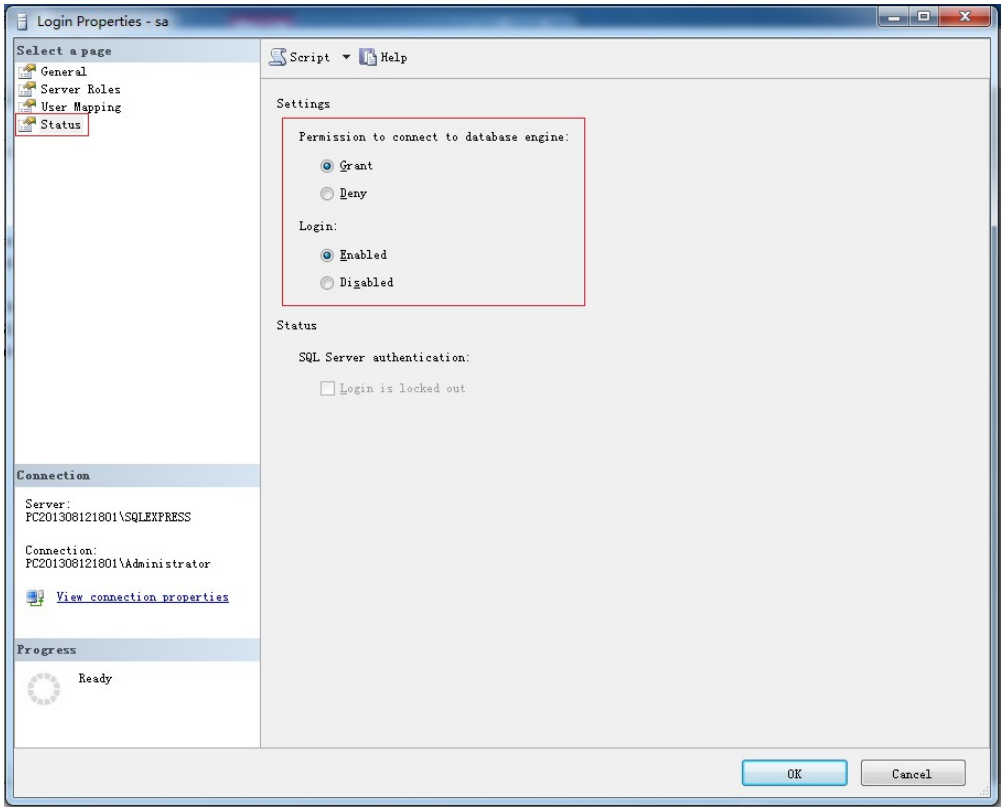
Step 6: Click Status, select Enabled, and click OK.



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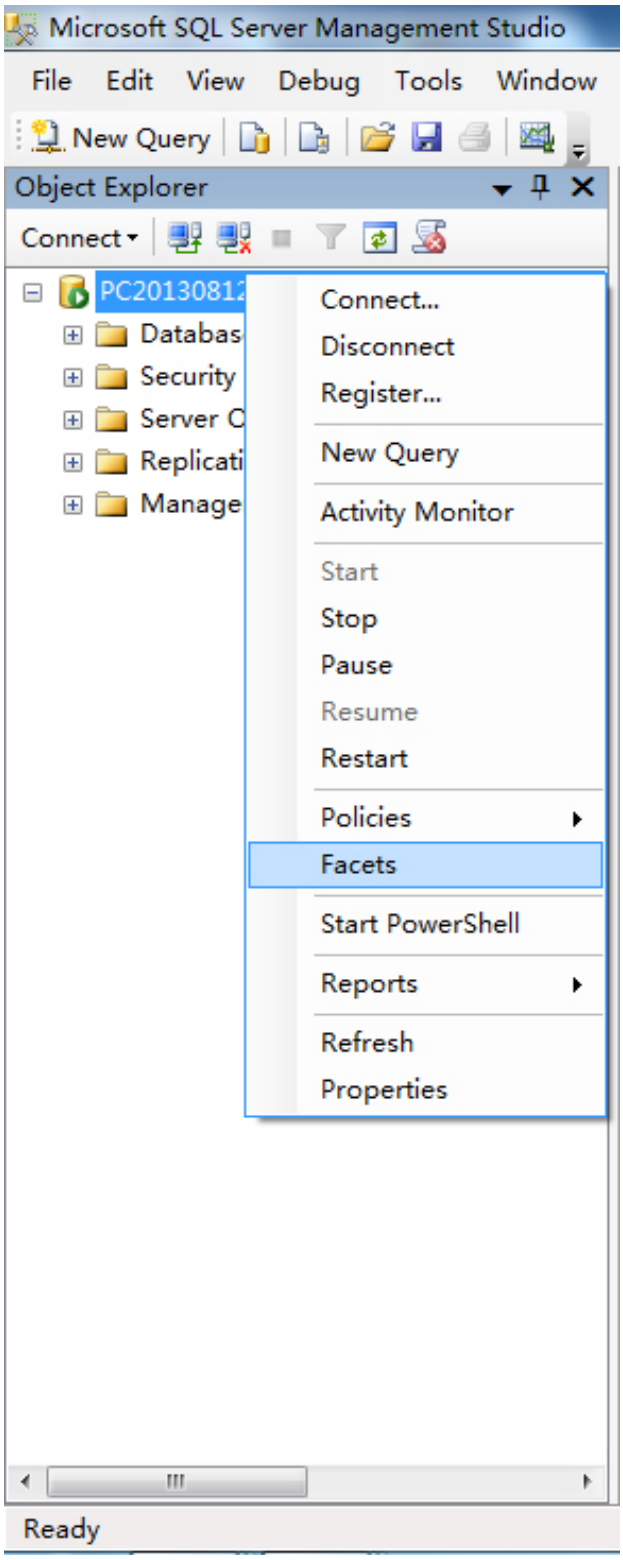
Step 7: Right click the database and select Facets.



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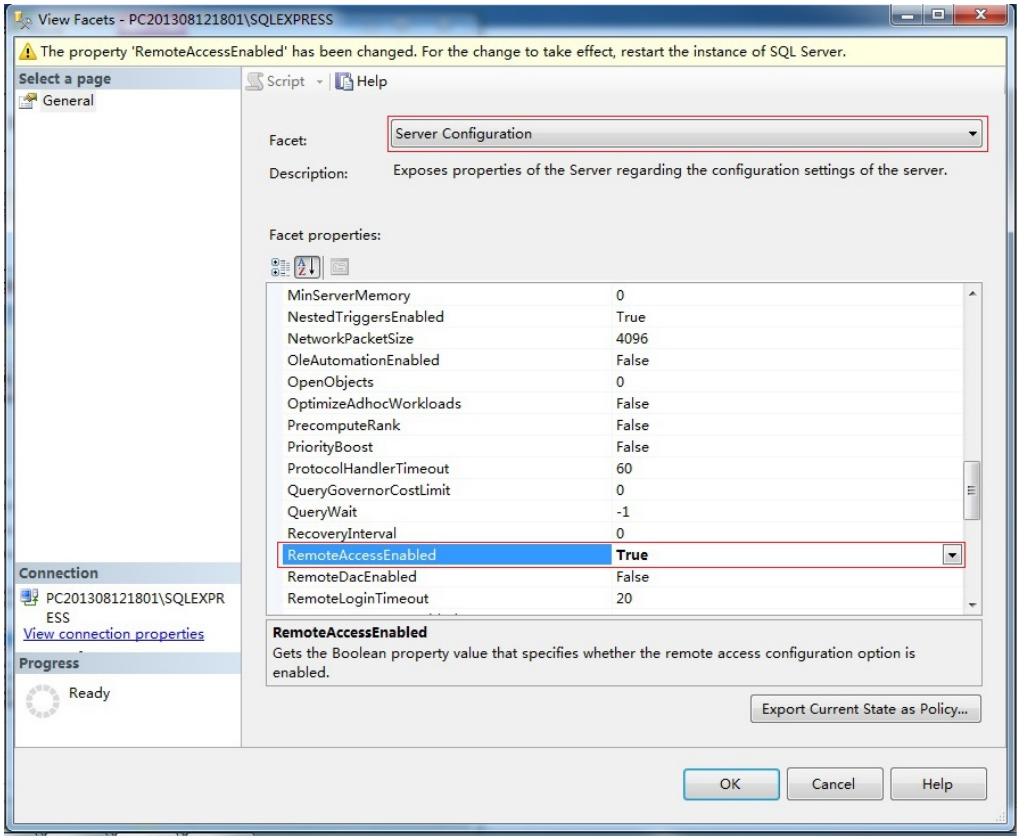
Step 8: Set “RemoteAccessEnabled” to “True”, and click OK.



Step 9: The SSMS configuration has been completed. Exit and log in using “sa”. If successful, the “sa” account will be enabled.

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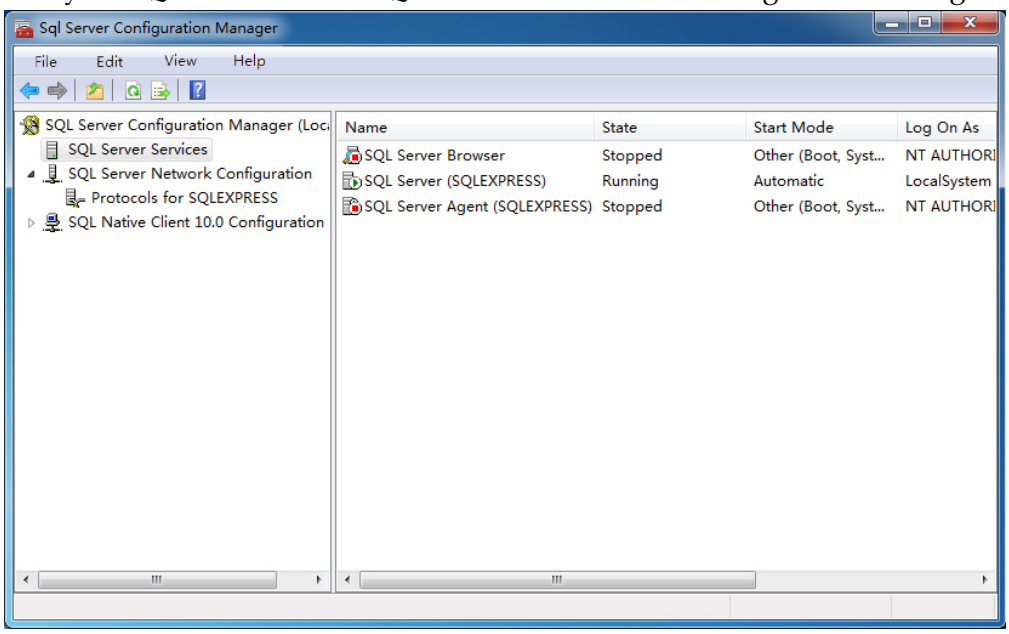
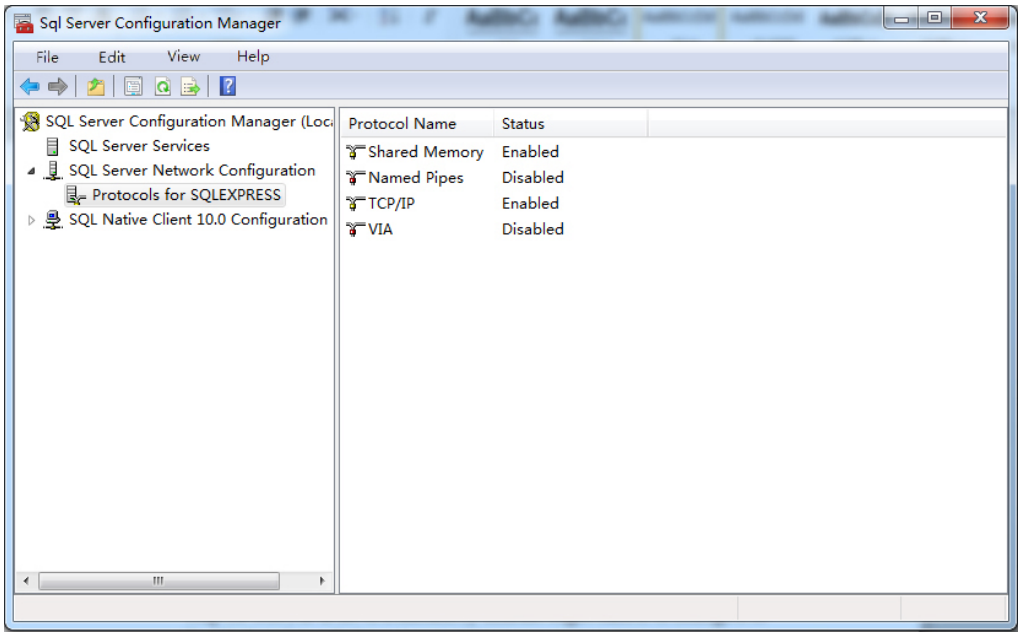
Step 10: To configure SSCM: click “SQL Server Services” on the left, and verify if “SQL Server” and “SQL Server Browser” on the right are running.



Step 11: TCP/IP is set to Disabled by default. Right click it to change it to Enabled as shown below.



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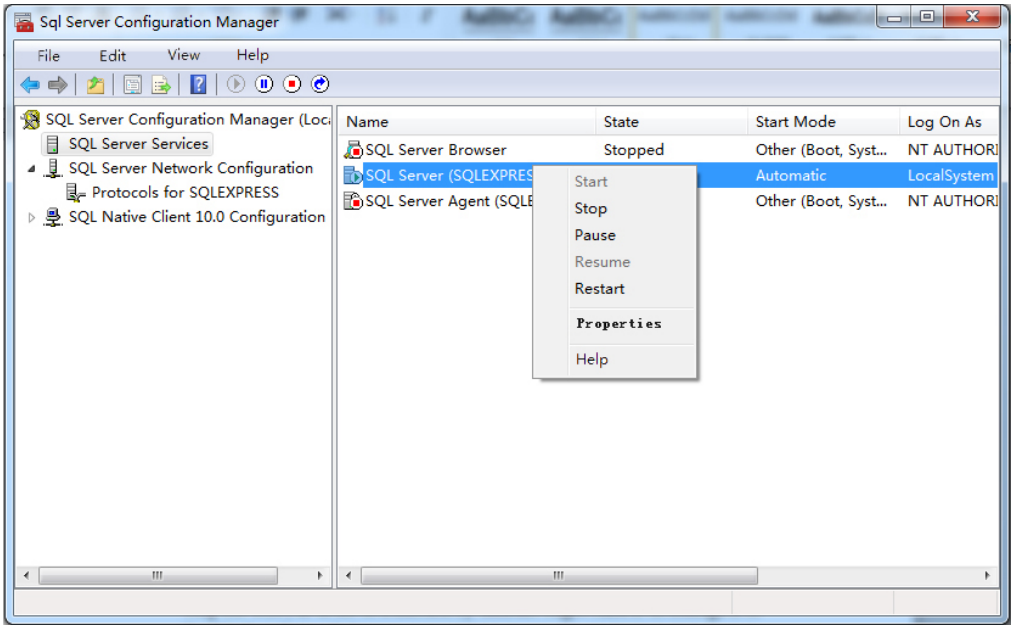
Step 12: The configuration has now been completed. Restart SQL Server 2008.



Chapter 3 Operation

Overview

This chapter provides information about the operation of the OptoStar II Network Management System (NMS).

Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to install and operate this software. Otherwise, equipment damage may occur.

In This Chapter

Before You Begin

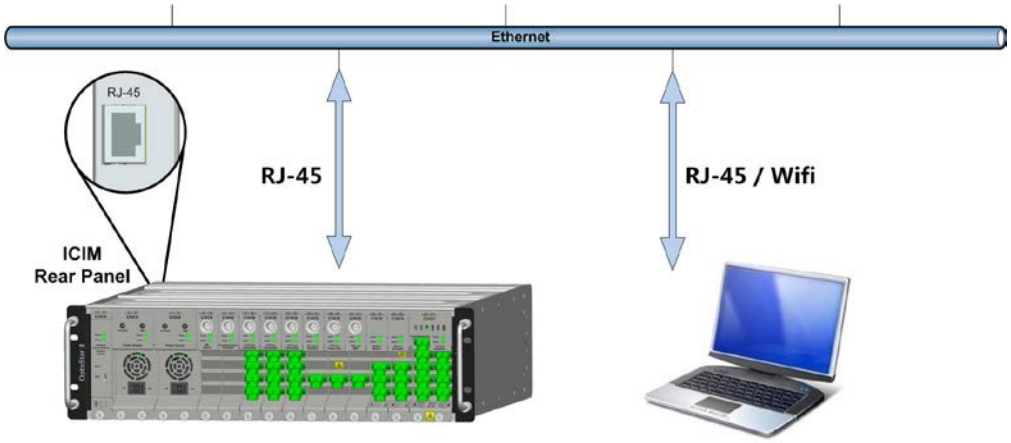
This section introduces the procedures to operate the OptoStar II NMS.

Before You Begin

- Database server
- Web server
- Polling server

Start

1. Make sure that the fiber and RF cables of relevant modules of the OptoStar II platform are connected.
2. Turn the front panel switch of the OptoStar II power supply module to ON position. The power supply module and other modules will initialize for about 5 seconds, and the ICIM will start loading for about 25 seconds.
3. When the device initialization is complete, connect to the Ethernet with the RJ-45 connector on the rear panel of the ICIM. Connect the PC to the Ethernet. The illustration below shows the connection method.

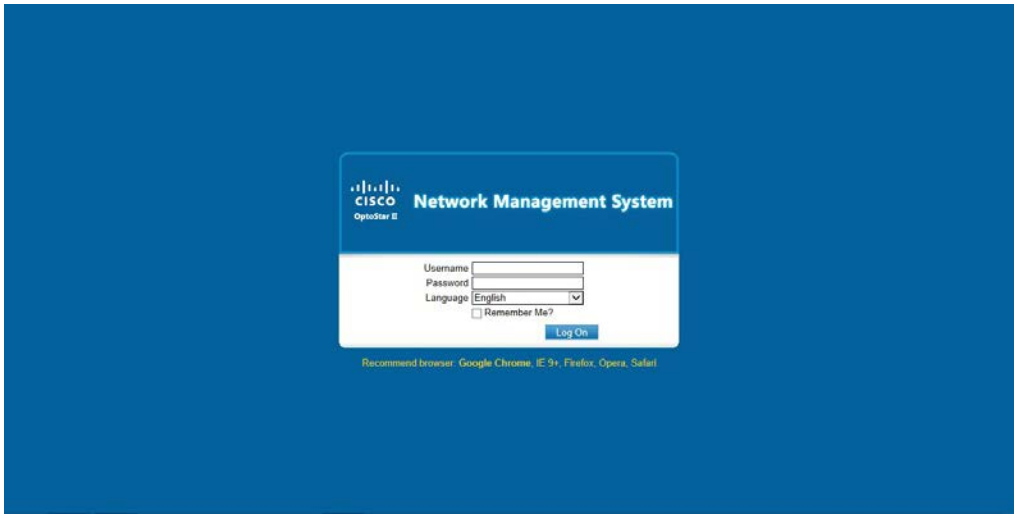


4. Log into the OptoStar II NMS system.

Functions

System Login

1. First enter the address of the OptoStar II NMS in a web browser (Google Chrome is recommended). For example: http://192.168.1.1. The NMS system login screen will display as shown below.



2. Then enter the default username: admin, and the default password: admin. Select language (English or Simplified Chinese) to log in the NMS system.

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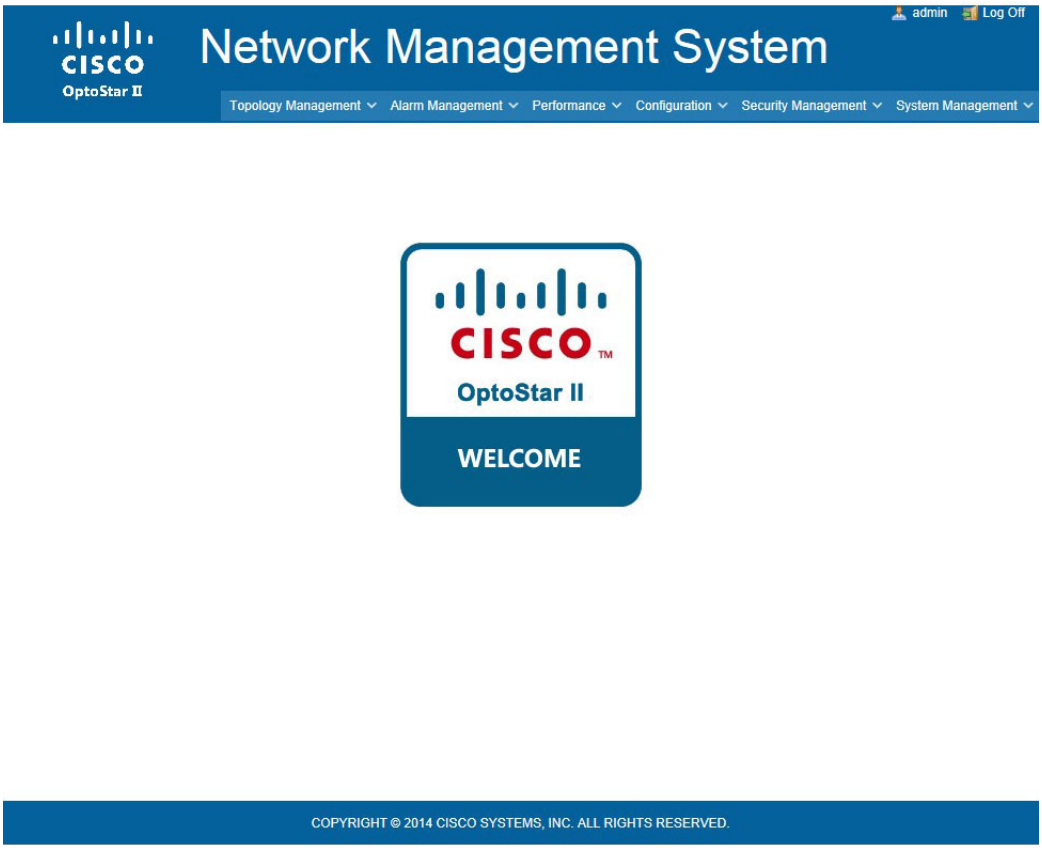
System Main Interface

Once the user has successfully logged in, it will display the main interface of the system as shown below.



- The OptoStar II NMS system provides following information:

  On top of the screen there are username button (

), exit button (

), and function buttons such as topology management, alarm management, performance management, configuration management, security management, and system logs. The user can select each menu to access corresponding management function.

  II. The user can click the username button (

) to modify user profile.

  Note: When there is alarm, the Alarm Management menu turns to red. The system interface is shown as below.

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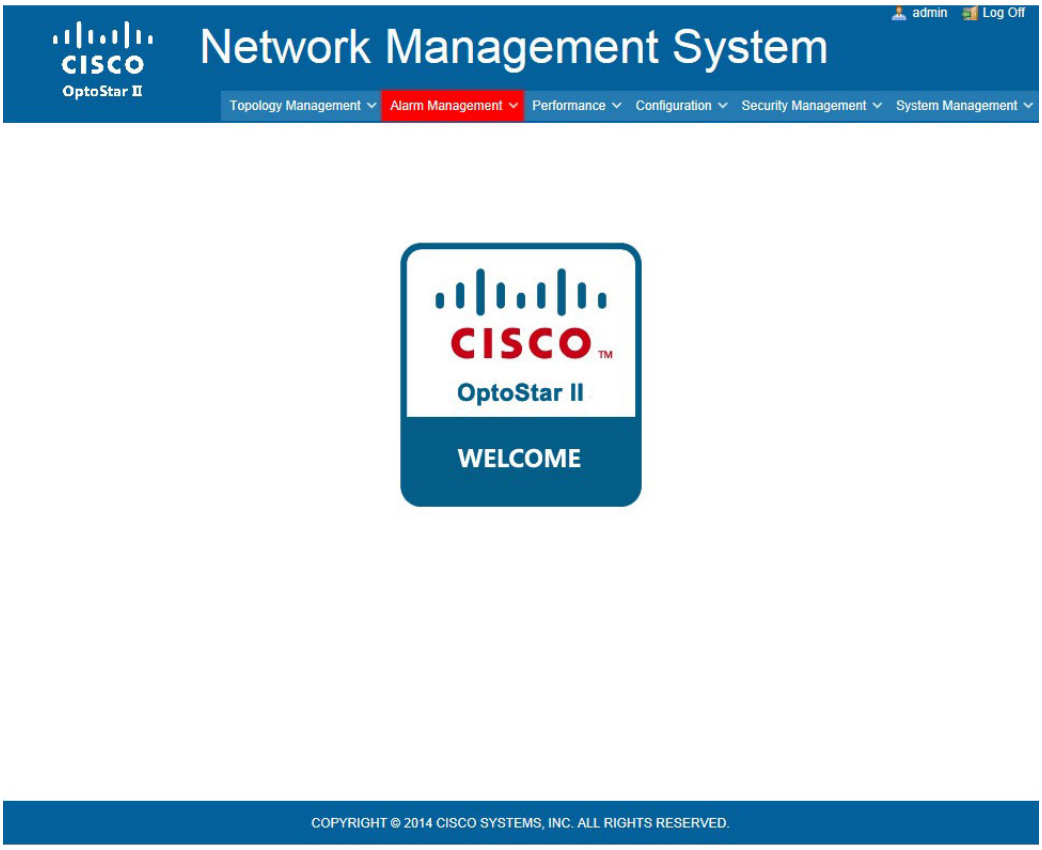
admin
Log Off
CISCO
OptoStar II
Network Management System
Topology Management
Alarm Management
Performance
Configuration
Security Management
System Management
CISCO
OptoStar II
WELCOME
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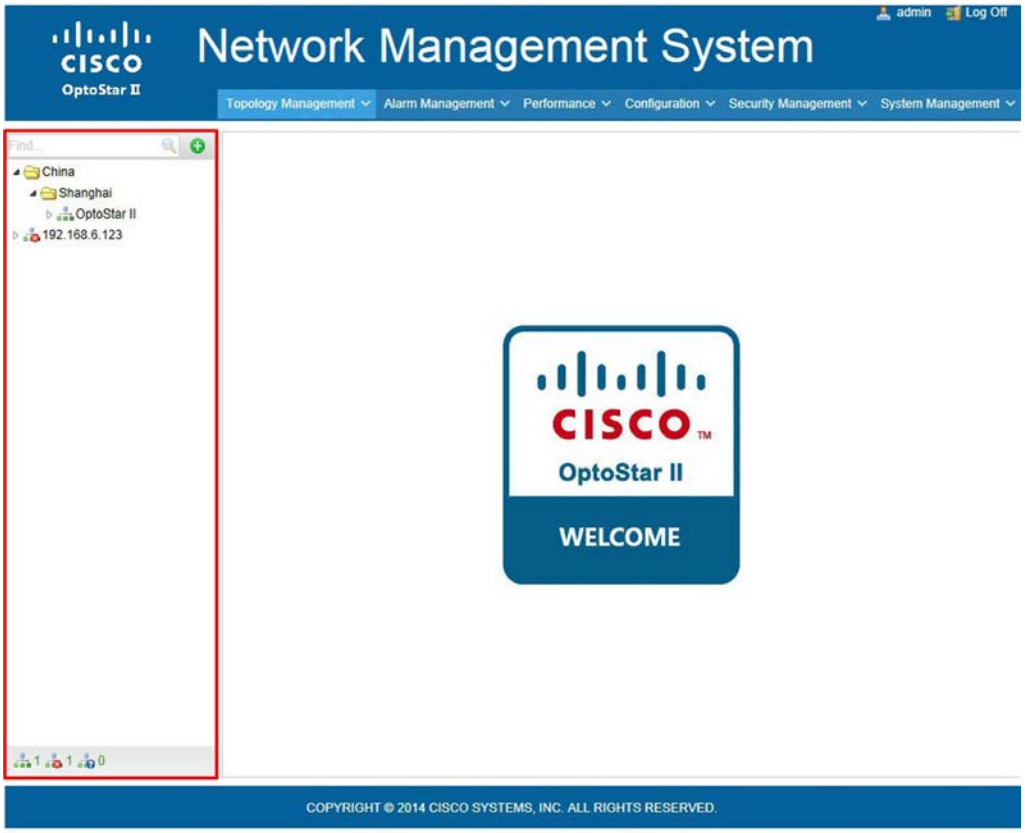
Topology Management

Topology Tree

Topology tree provides centralized monitoring and management functions on one interface, where the node information, statistics, and equipment online status in all the areas can be viewed. See the screenshot below.



The nodes in topology tree include text nodes ( ) and equipment nodes ( ). Click text nodes to expand their sub-nodes; and click equipment nodes to display detailed parameters of the equipment on the right. Three icons are used in the tree folder to stand for different equipment online statuses: online ( ), offline ( ), and unknown ( ).

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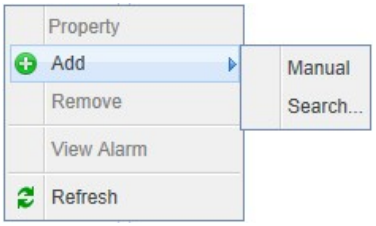
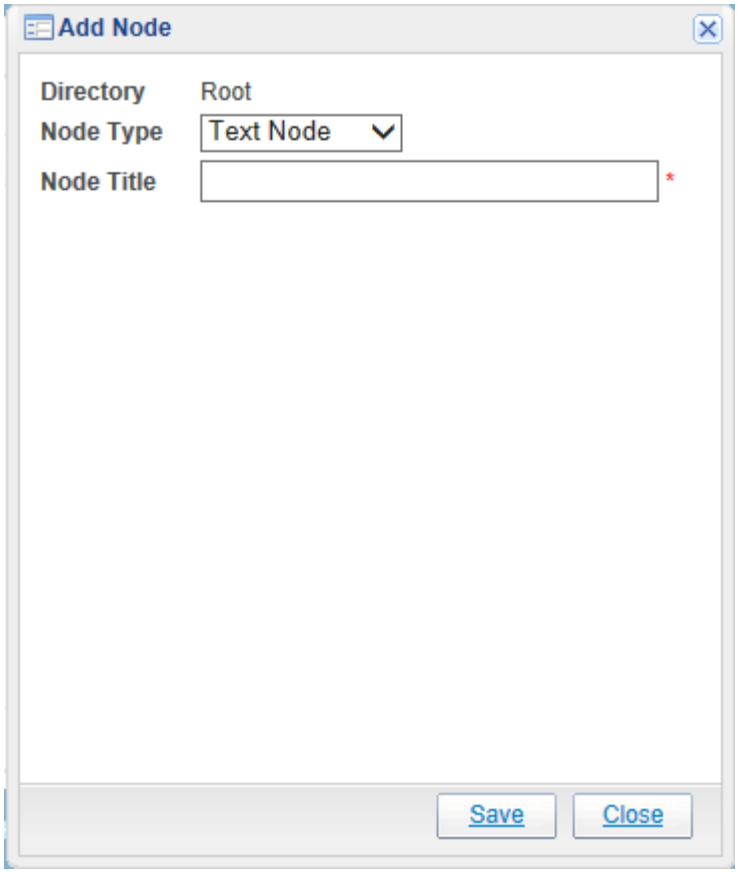
- See operation procedures below:

1. To add a folder/equipment: right click any blank area in the topology tree, and the following menu will display:



Select Add -> Manually, and the following dialog box will display:



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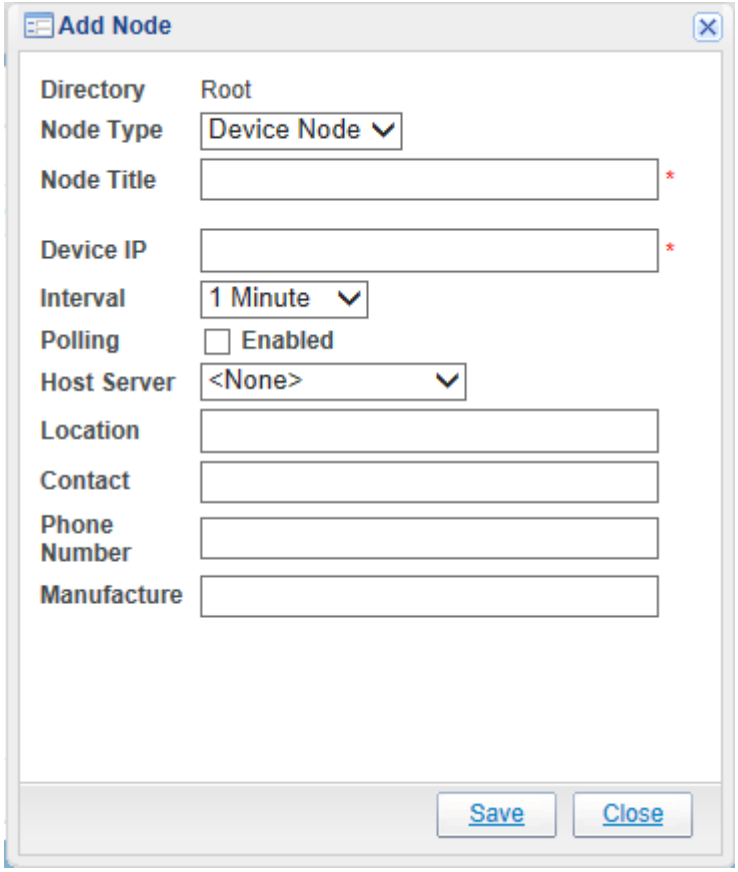
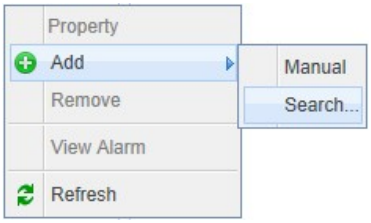
In the Node Type dropdown list, select the node type to add. The default is Text Node, i.e., folder node.
See the Add Node window below:



The IP address entered into the IP Address field must be compliant with its format criteria. In the Polling Server dropdown list, select one server to perform polling for that IP.

2. To search equipment: right click any blank area in the tree topology folder, and the following menu will display:



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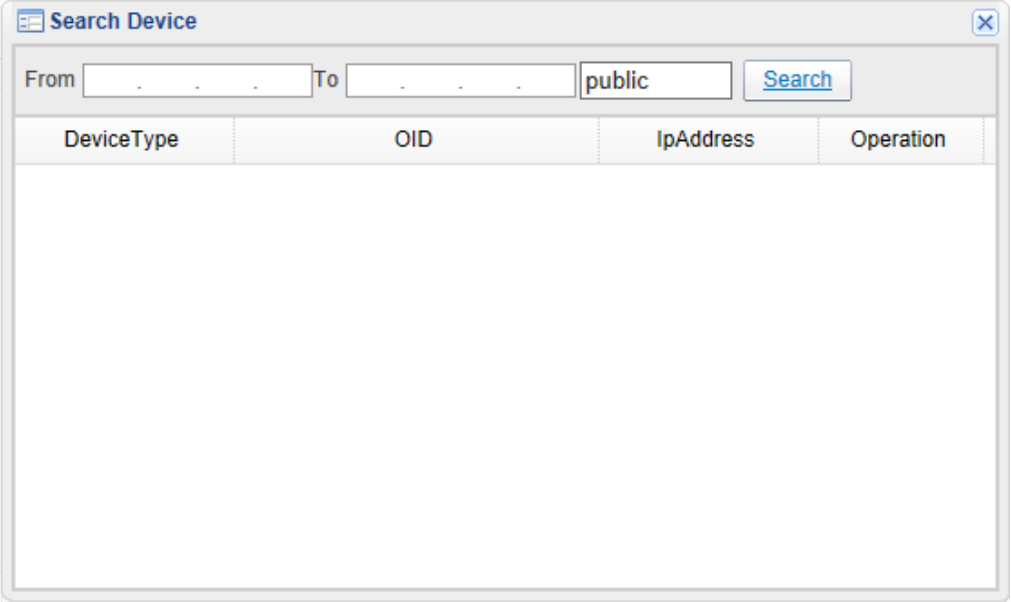
Select Add -> Search, and the following dialog box will display:



Enter the IP address range and SNMP string ("public" as default), and click Search to start searching.

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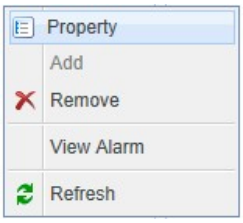
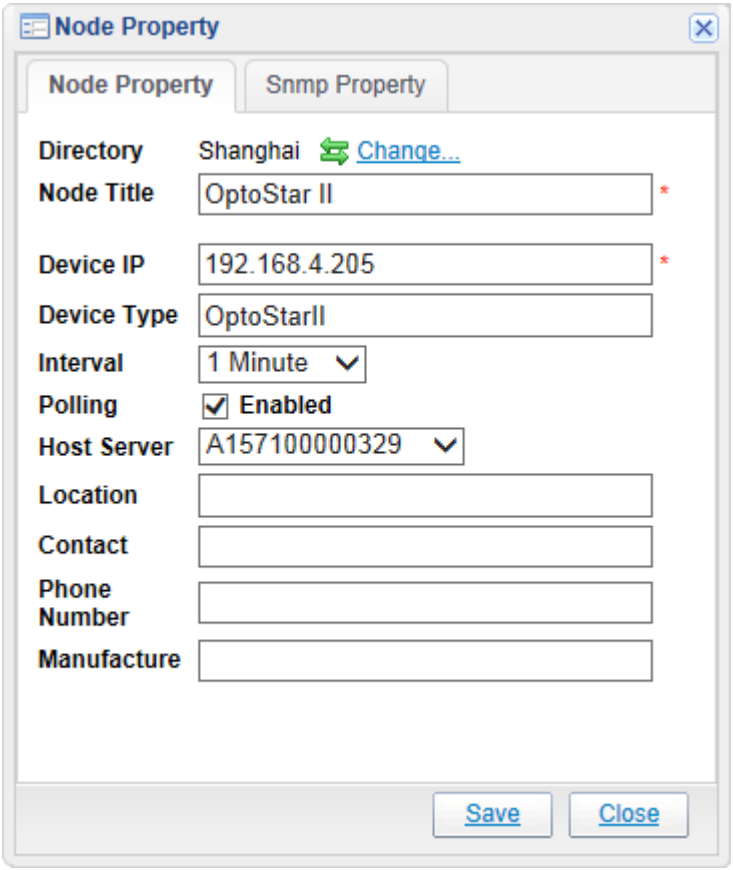
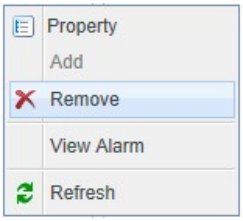
3. To view node property: move cursor to the node you want to view, right click and the following menu will display:



Select Property to display detailed information about that node, as shown below:



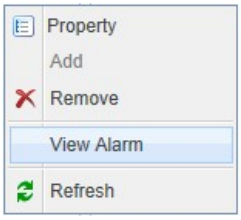
4. To delete a node: move cursor to the node you want to delete, right click and the following menu will display:



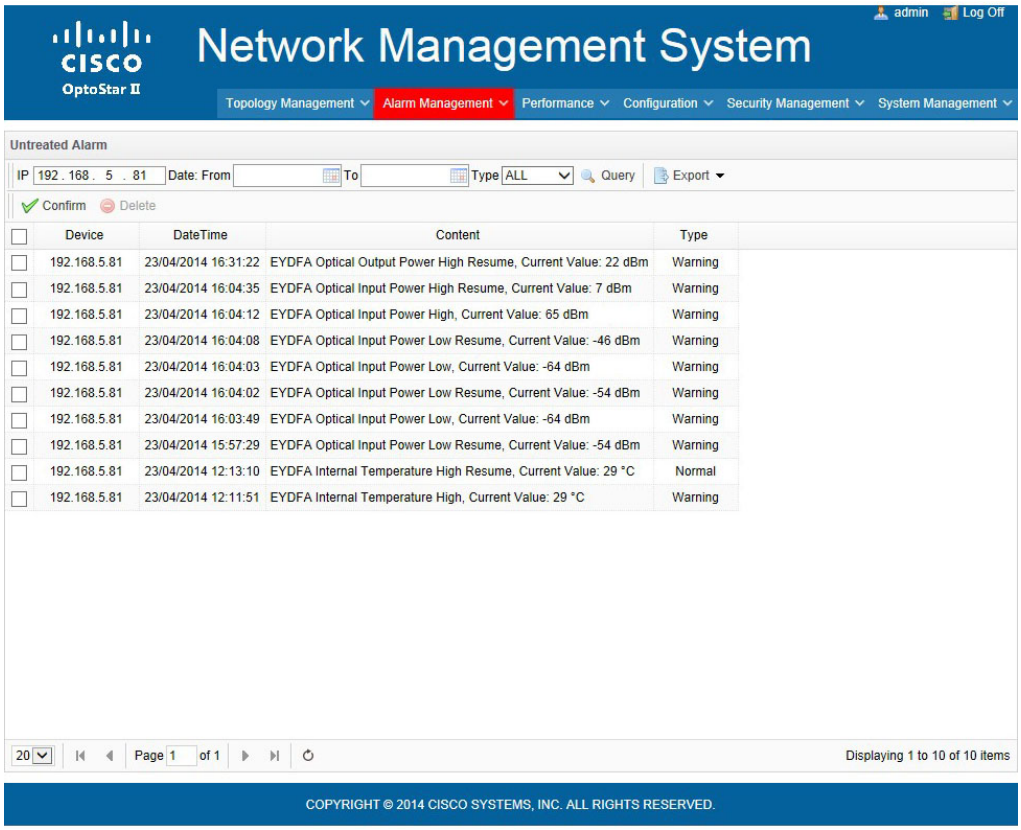
Select Remove to delete that node. If a node folder is selected, then all the sub-folders and equipment nodes in that folder will be deleted.

Continued on next page

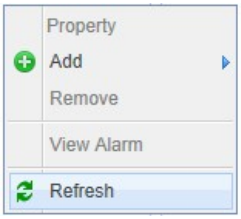
5. To view the node alarm: move cursor to the node you want to view the node alarm, right click and the following menu will display:



Select View Alarm to display alarm information about that node, as shown below:



6. To refresh the tree folder: right click any blank area in the tree topology folder, and the following menu will display:



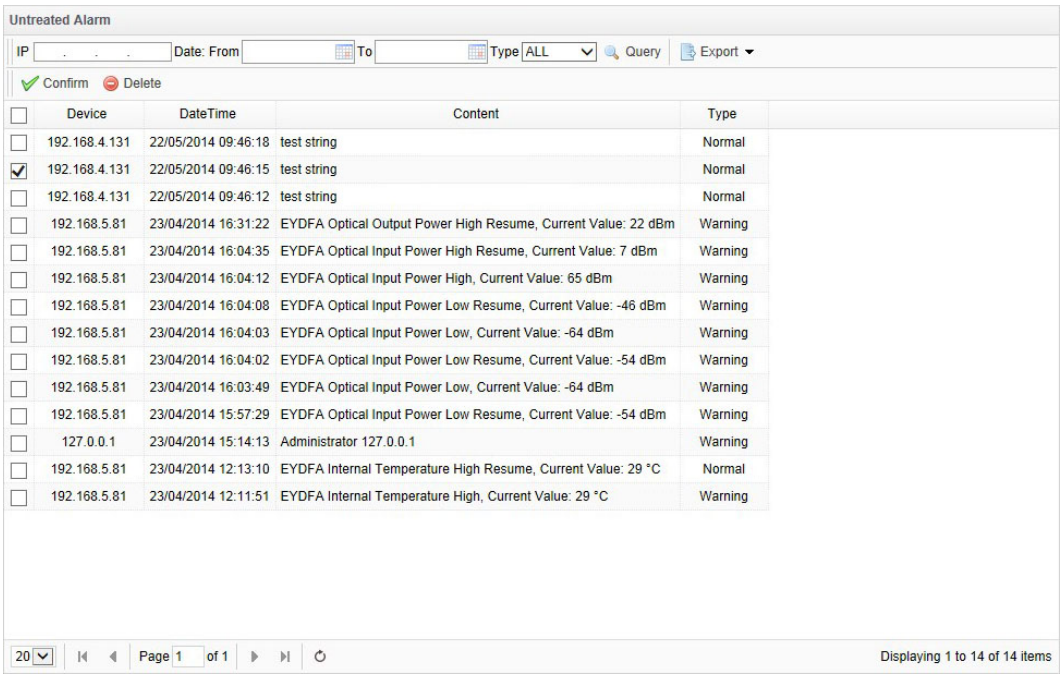
Select Refresh to refresh the entire tree folder view.

Continued on next page

Alarm Management

Untreated Alarm Management

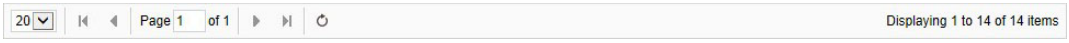
The Untreated Alarm screen displays all the alarms received by the polling server. See the illustration below.



Device	DateTime	Content	Type
192.168.4.131	22/05/2014 09:46:18	test string	Normal
192.168.4.131	22/05/2014 09:46:15	test string	Normal
192.168.4.131	22/05/2014 09:46:12	test string	Normal
192.168.5.81	23/04/2014 16:31:22	EYDFA Optical Output Power High Resume, Current Value: 22 dBm	Warning
192.168.5.81	23/04/2014 16:04:35	EYDFA Optical Input Power High Resume, Current Value: 7 dBm	Warning
192.168.5.81	23/04/2014 16:04:12	EYDFA Optical Input Power High, Current Value: 65 dBm	Warning
192.168.5.81	23/04/2014 16:04:08	EYDFA Optical Input Power Low Resume, Current Value: -46 dBm	Warning
192.168.5.81	23/04/2014 16:04:03	EYDFA Optical Input Power Low, Current Value: -64 dBm	Warning
192.168.5.81	23/04/2014 16:04:02	EYDFA Optical Input Power Low Resume, Current Value: -54 dBm	Warning
192.168.5.81	23/04/2014 16:03:49	EYDFA Optical Input Power Low, Current Value: -64 dBm	Warning
192.168.5.81	23/04/2014 15:57:29	EYDFA Optical Input Power Low Resume, Current Value: -54 dBm	Warning
127.0.0.1	23/04/2014 15:14:13	Administrator 127.0.0.1	Warning
192.168.5.81	23/04/2014 12:13:10	EYDFA Internal Temperature High Resume, Current Value: 29 °C	Normal
192.168.5.81	23/04/2014 12:11:51	EYDFA Internal Temperature High, Current Value: 29 °C	Warning

- See operation procedures below:

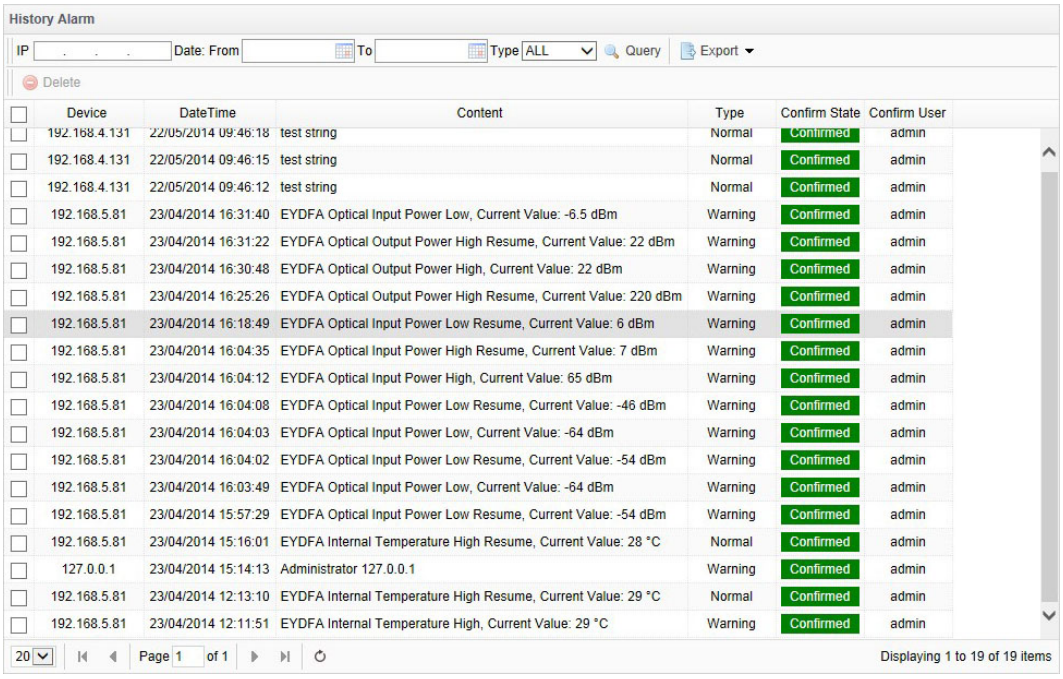
1. To confirm an alarm: the administrator can select one or more alarm items and click the confirm button (Confirm) to confirm and remove the alarm from the Pending Alarm list.
2. To delete an alarm: select one or more alarm items and click the delete button (Delete).
3. To query an alarm: fill in all the query condition fields, such as IP Address, Date, and Alarm Type, and click Query.
4. Paging: in the toolbar at the bottom of the page, you can go to the previous/next page, and set up the number of alarms to be displayed.



Continued on next page

History Alarm Management

History Alarm displays all the alarm items confirmed or deleted from the Pending Alarm list. See the screenshot below.



Device	DateTime	Content	Type	Confirm State	Confirm User
192.168.4.131	22/05/2014 09:46:18	test string	Normal	Confirmed	admin
192.168.4.131	22/05/2014 09:46:15	test string	Normal	Confirmed	admin
192.168.4.131	22/05/2014 09:46:12	test string	Normal	Confirmed	admin
192.168.5.81	23/04/2014 16:31:40	EYDFA Optical Input Power Low, Current Value: -6.5 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:31:22	EYDFA Optical Output Power High Resume, Current Value: 22 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:30:48	EYDFA Optical Output Power High, Current Value: 22 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:25:26	EYDFA Optical Output Power High Resume, Current Value: 220 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:18:49	EYDFA Optical Input Power Low Resume, Current Value: 6 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:04:35	EYDFA Optical Input Power High Resume, Current Value: 7 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:04:12	EYDFA Optical Input Power High, Current Value: 65 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:04:08	EYDFA Optical Input Power Low Resume, Current Value: -46 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:04:03	EYDFA Optical Input Power Low, Current Value: -64 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:04:02	EYDFA Optical Input Power Low Resume, Current Value: -54 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 16:03:49	EYDFA Optical Input Power Low, Current Value: -64 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 15:57:29	EYDFA Optical Input Power Low Resume, Current Value: -54 dBm	Warning	Confirmed	admin
192.168.5.81	23/04/2014 15:16:01	EYDFA Internal Temperature High Resume, Current Value: 28 °C	Normal	Confirmed	admin
127.0.0.1	23/04/2014 15:14:13	Administrator 127.0.0.1	Warning	Confirmed	admin
192.168.5.81	23/04/2014 12:13:10	EYDFA Internal Temperature High Resume, Current Value: 29 °C	Normal	Confirmed	admin
192.168.5.81	23/04/2014 12:11:51	EYDFA Internal Temperature High, Current Value: 29 °C	Warning	Confirmed	admin

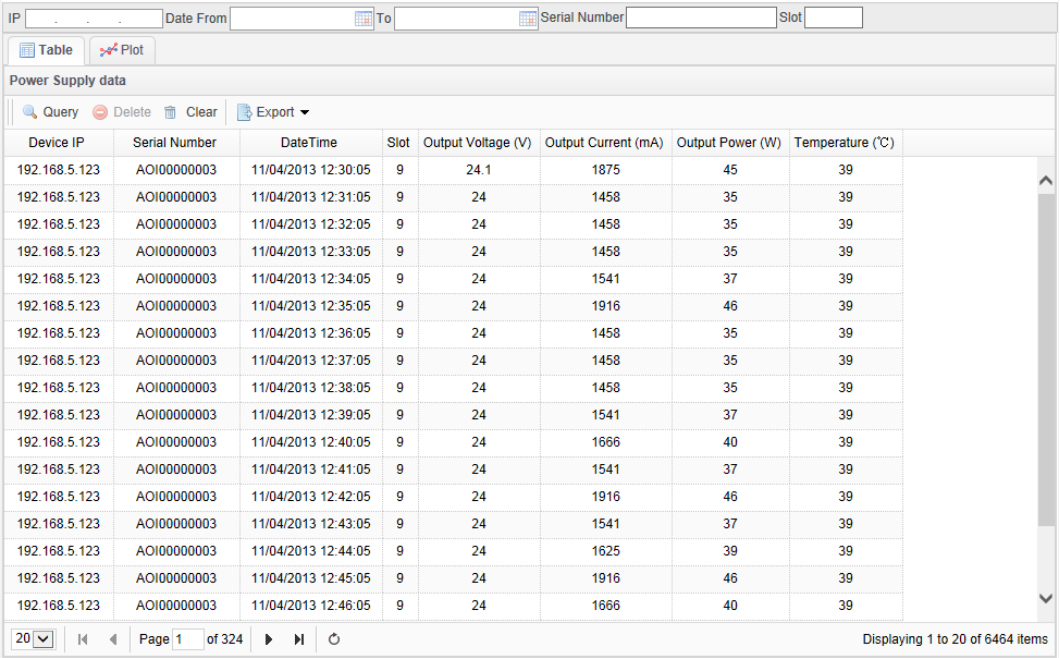
- See operation procedures below:

See the procedures of Untreated Alarm.

Continued on next page

Performance Management

Performance Management displays equipment parameters regularly received by the polling server. These parameters can be queried, deleted, or shown in charts. See the screenshot below (taking the power supply module as an example).

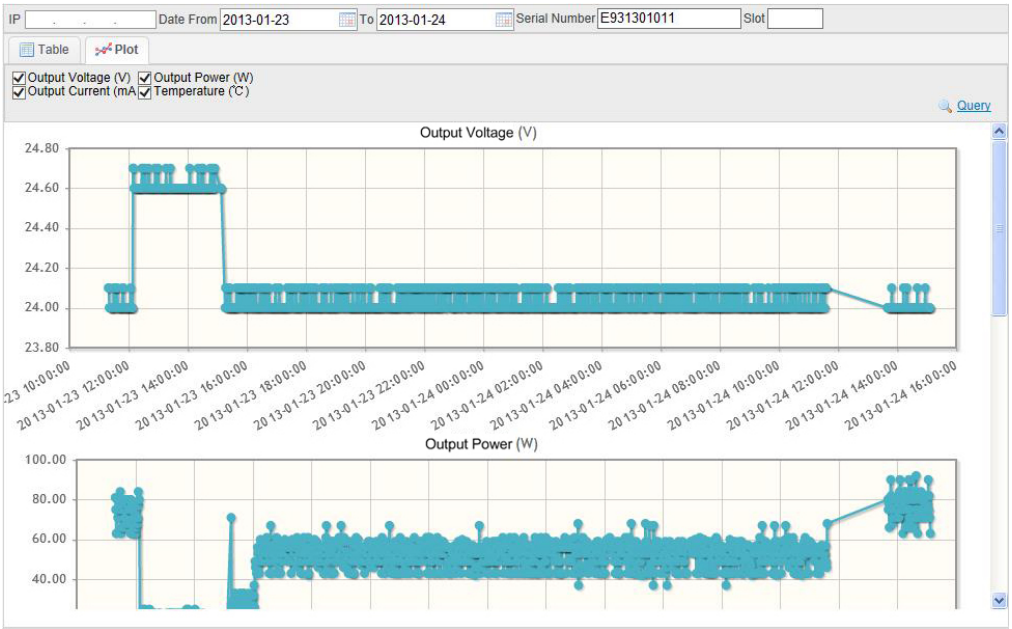


Device IP	Serial Number	DateTime	Slot	Output Voltage (V)	Output Current (mA)	Output Power (W)	Temperature (℃)
192.168.5.123	AOI00000003	11/04/2013 12:30:05	9	24.1	1875	45	39
192.168.5.123	AOI00000003	11/04/2013 12:31:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:32:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:33:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:34:05	9	24	1541	37	39
192.168.5.123	AOI00000003	11/04/2013 12:35:05	9	24	1916	46	39
192.168.5.123	AOI00000003	11/04/2013 12:36:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:37:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:38:05	9	24	1458	35	39
192.168.5.123	AOI00000003	11/04/2013 12:39:05	9	24	1541	37	39
192.168.5.123	AOI00000003	11/04/2013 12:40:05	9	24	1666	40	39
192.168.5.123	AOI00000003	11/04/2013 12:41:05	9	24	1541	37	39
192.168.5.123	AOI00000003	11/04/2013 12:42:05	9	24	1916	46	39
192.168.5.123	AOI00000003	11/04/2013 12:43:05	9	24	1541	37	39
192.168.5.123	AOI00000003	11/04/2013 12:44:05	9	24	1625	39	39
192.168.5.123	AOI00000003	11/04/2013 12:45:05	9	24	1916	46	39
192.168.5.123	AOI00000003	11/04/2013 12:46:05	9	24	1666	40	39

Continued on next page

- See operation procedures below:

1. To query data: enter the query conditions, such as IP Address, Date, S/N, and Slot ID, and click the query button (Query) to display the results.
2. To delete data: Select the data item to delete, and click the delete button (Delete) to delete it.
3. To empty data: this operation will empty all the data - please use with caution.
4. To show in charts: Enter the mandatory query condition (the dates), and optional conditions such as IP Address, S/N, and Slot ID, check the parameters to display, and click the Query button (Query) for results.



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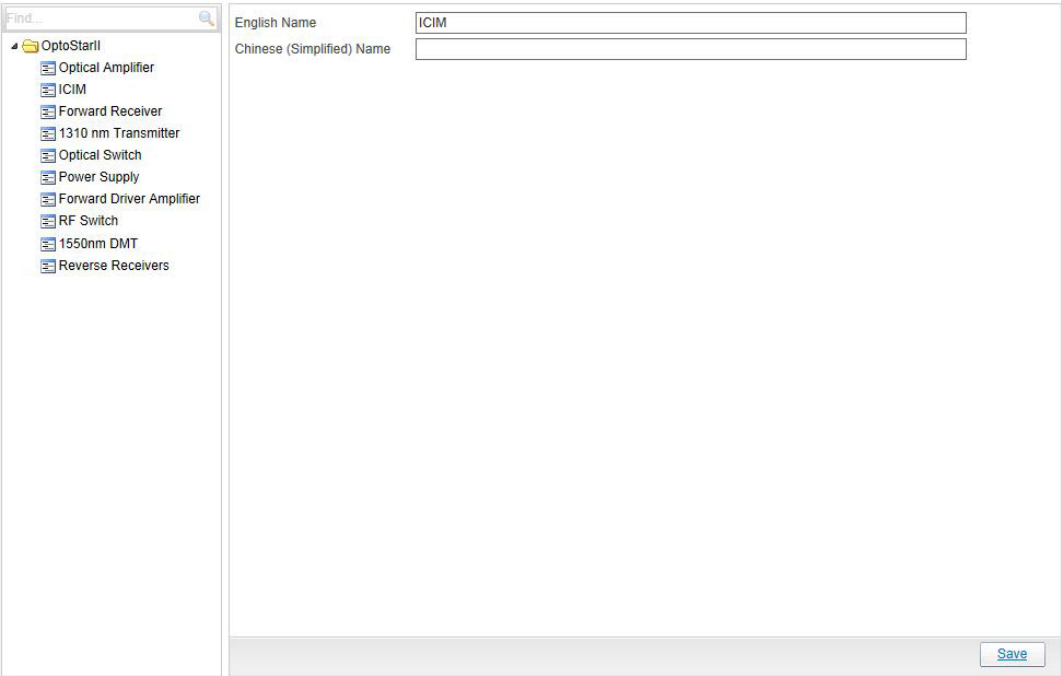
Configuration Management

Device Name Configuration

The system provides default device names. This function can be used to rename the device. See the screenshot below.



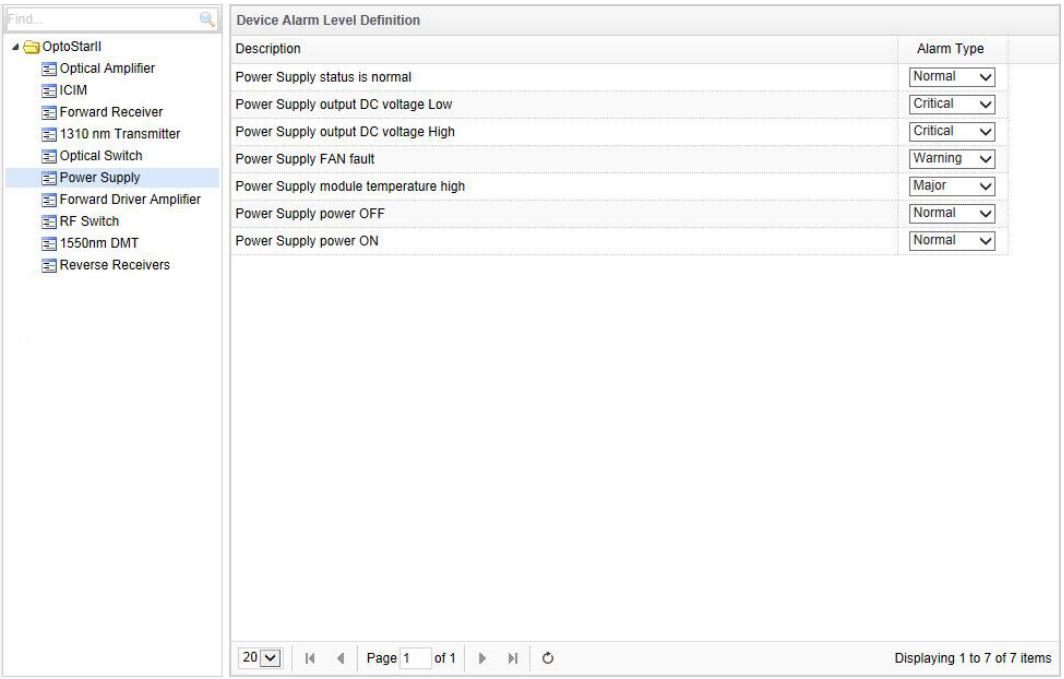
- See operation procedures below:

1. Select the device to rename on the left, enter the new name in the text box on the right, and click the Save button on the lower right corner to save the change.

Continued on next page

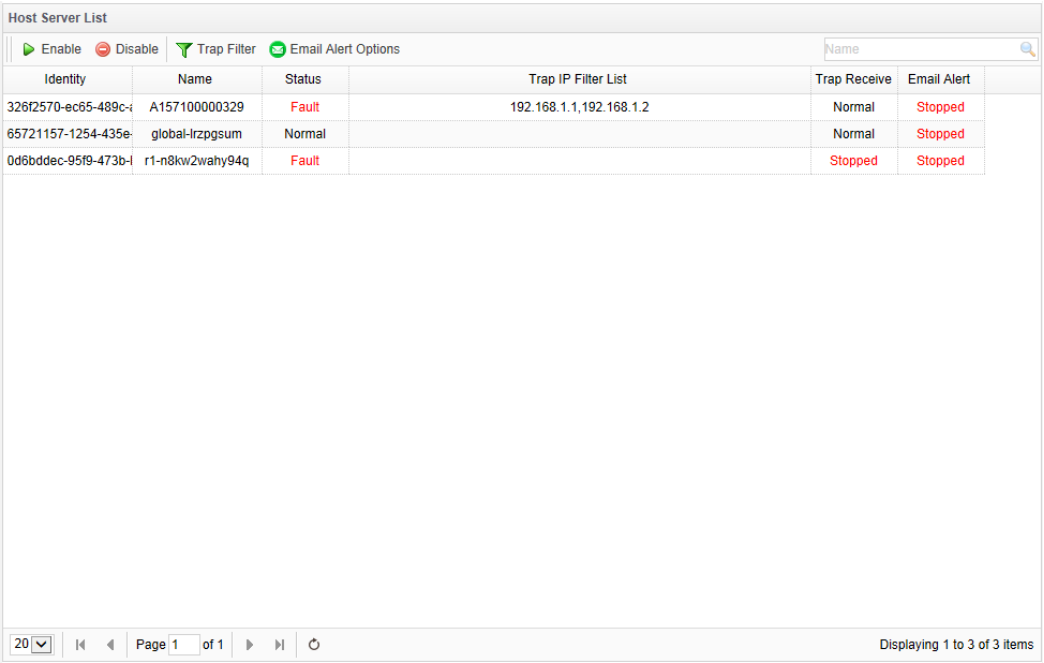
Alarm Level Definition

The system provides six default alarm levels, including Normal, Warning, Minor, Major, Critical and Undefined. The user can set up the level as required. See the screenshot below.



Host Server Management

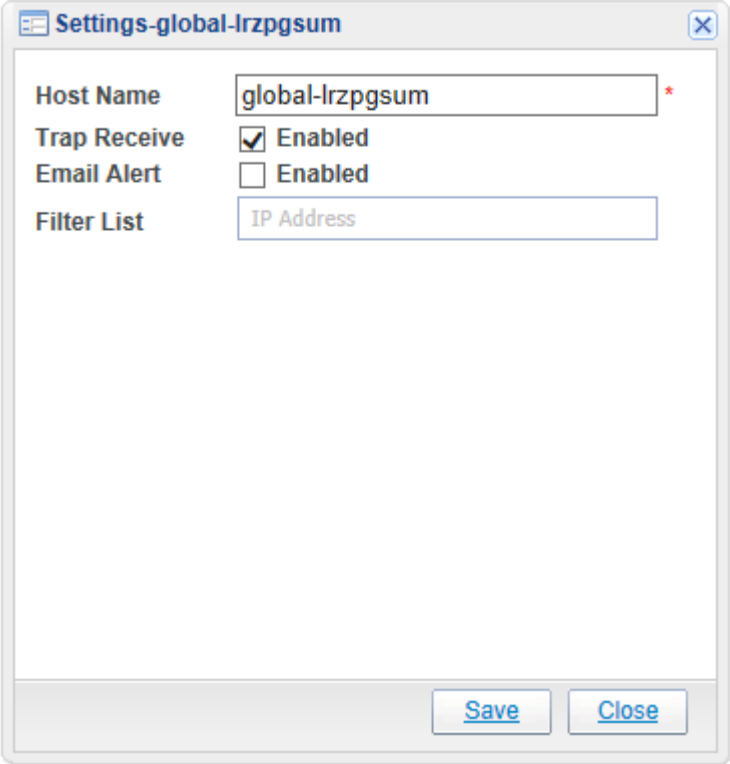
Host server management displays statuses for all the servers, including Identity, Name, Status, Trap Receive, Email Alert, and Trap IP Filter List. See the illustration below.



Continued on next page

- See operation procedures below:

1. To set host status: double click or right click the item to set, and the following window will display:



You may set Host Name, Trap Receive, Email Alert, and Filter List in this window. Enter multiple IP addresses in the Filter List, divided by Enter key.

When the setup is completed, click the Save button to save the change.

2. To set alarm on/off: use the " Enable Disable " button in the toolbar to enable/disable all the server alarms.

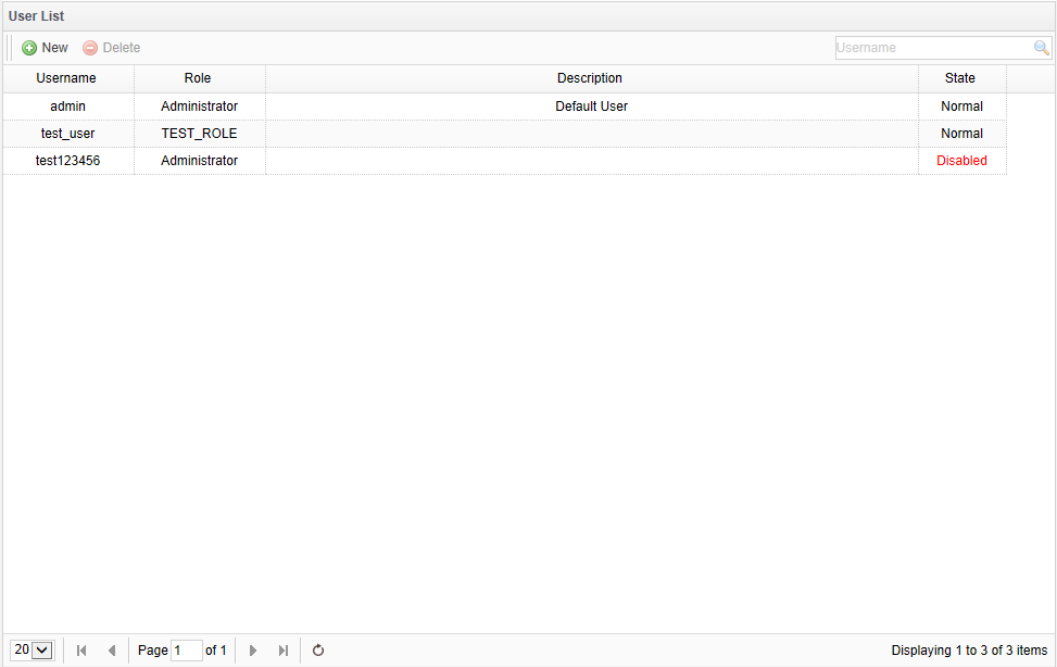
3. To set alarm filter: use the " Trap Filter " button in the toolbar to set filter IP list of all the server alarms. When the setup is completed, the server will no longer receive alarms from the filter IP list.

Continued on next page

Security Management

User Management

Use the user management function to manage all the users who are using the NMS, including adding, deleting, or changing the users. See the illustration below.

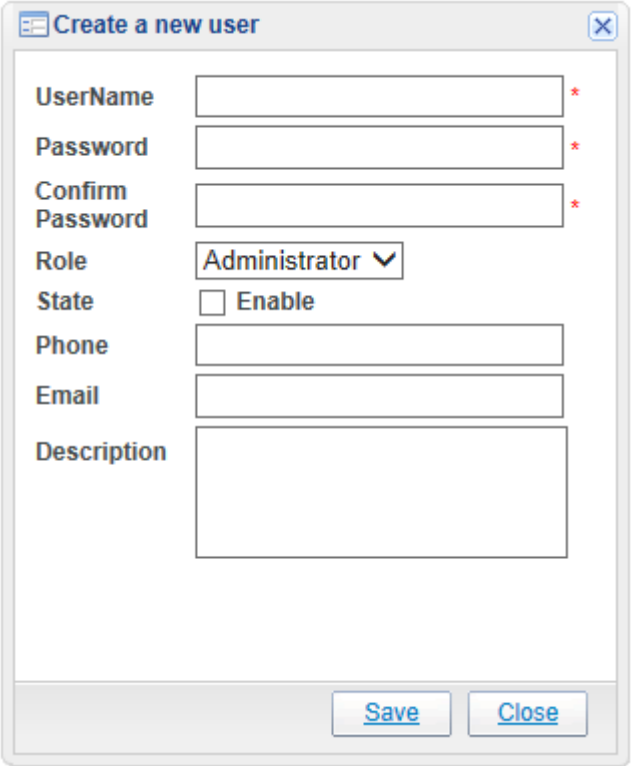


Continued on next page

- See operation procedures below:

1. To create a new user: click the New button (

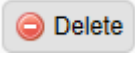
) in the toolbar as shown below:



The Username, Password, Confirm Password, and Role fields are mandatory.

When the State is disabled, the user cannot use the NMS; when it is enabled, the user can use the NMS.

Click the Save button to save the change.

2. To delete a user: select the user to delete, and click the Delete button (

) in the toolbar to delete it.

The default user "admin" cannot be deleted.

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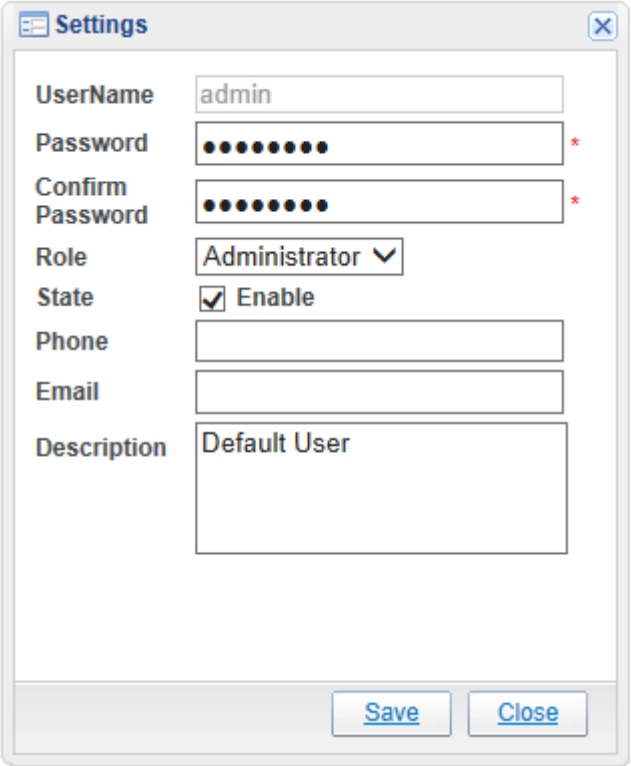
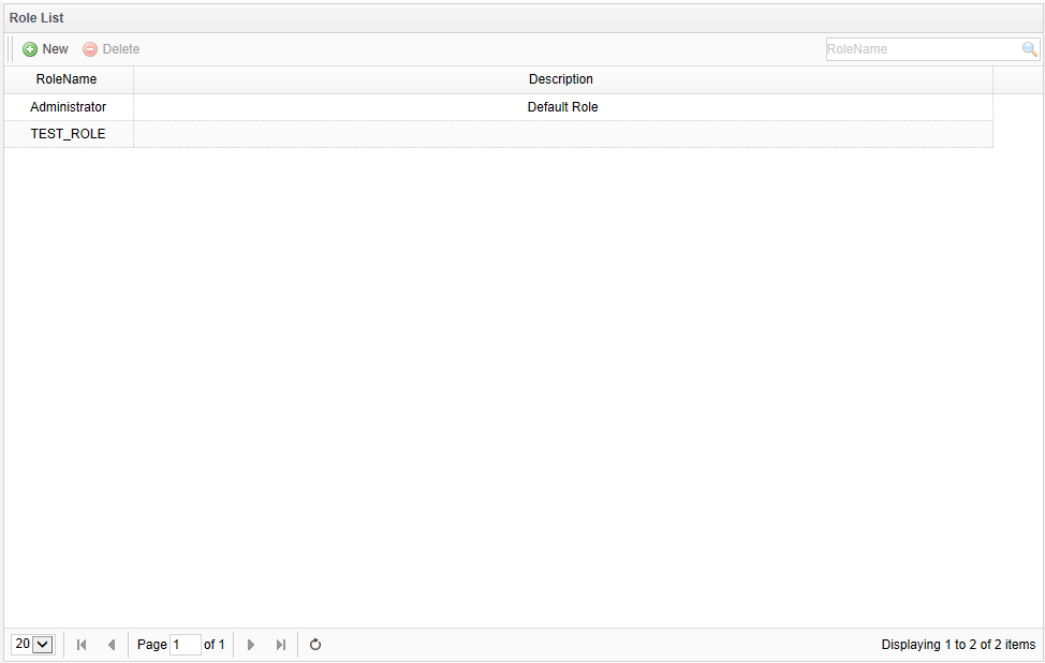
3. To modify user information: double click or right click the user to modify, and a window will display as shown below:



When the modification is completed, click the Save button to save the change.

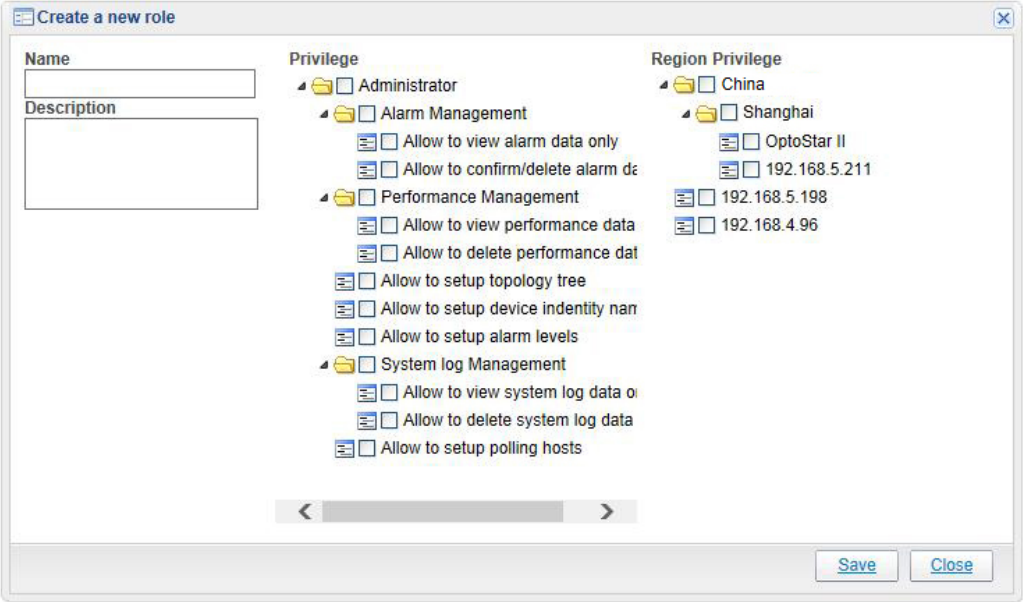
Role Management

Use the role management function to show and set all the roles. See the illustration below.



- See operation procedures below:

1. To create a new role: click the New button (New) in the toolbar as shown below:



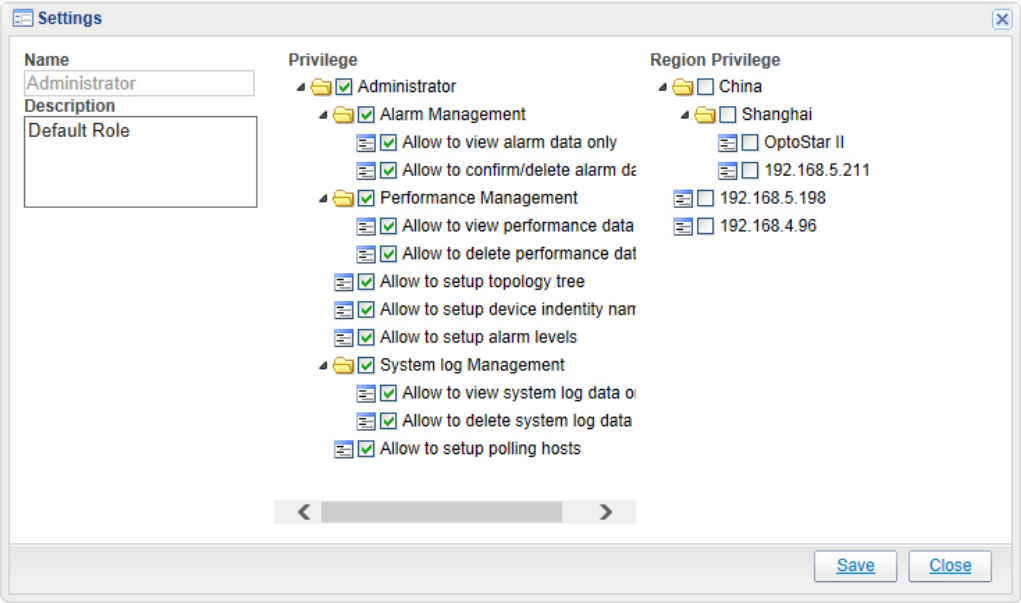
Fill in the Role Name and Description fields, and check the Privilege and Region Privilege lists.

In the Region Privilege list, a node without being checked means its users have no permission to access the equipment information in that region; when it is checked, its users can read and set the equipment in that region.

Continued on next page

2. To delete a role: select the role to delete, and click the Delete (

) button in the toolbar to delete it. The default role "admin" cannot be deleted.
3. To edit a role: double click the role to edit and the following window will display. Click the Save button when the edit is completed.



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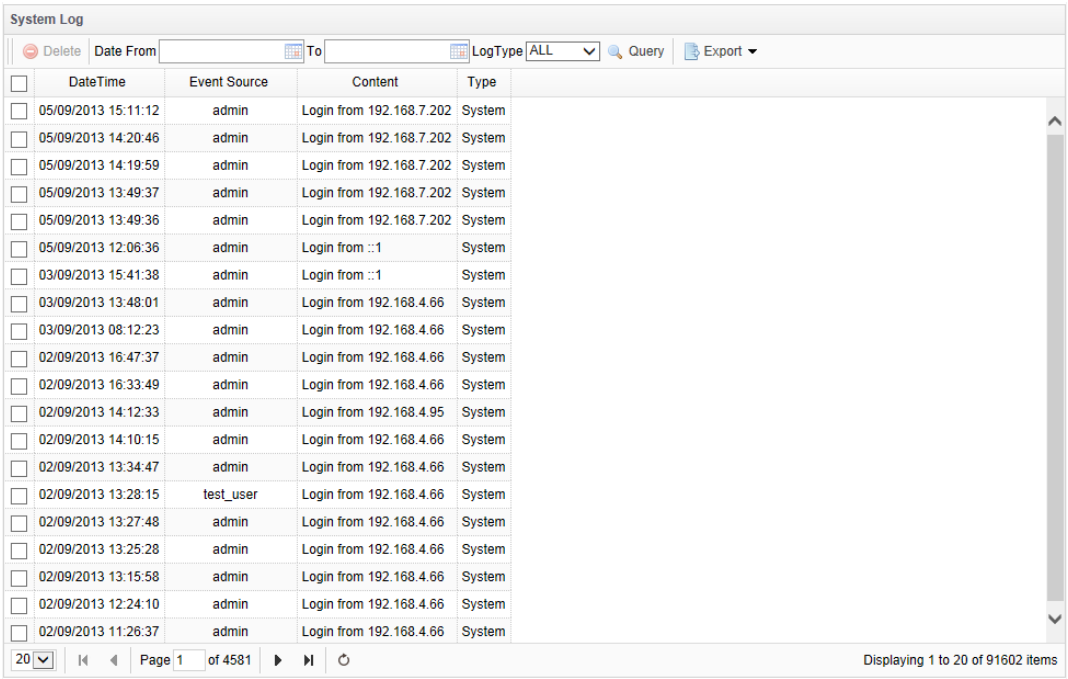
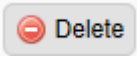
System Management

System Log Management

System log management displays the following contents: errors found in the polling server during the polling process, user login information, and user's setup records for the equipment. See the screenshot below.



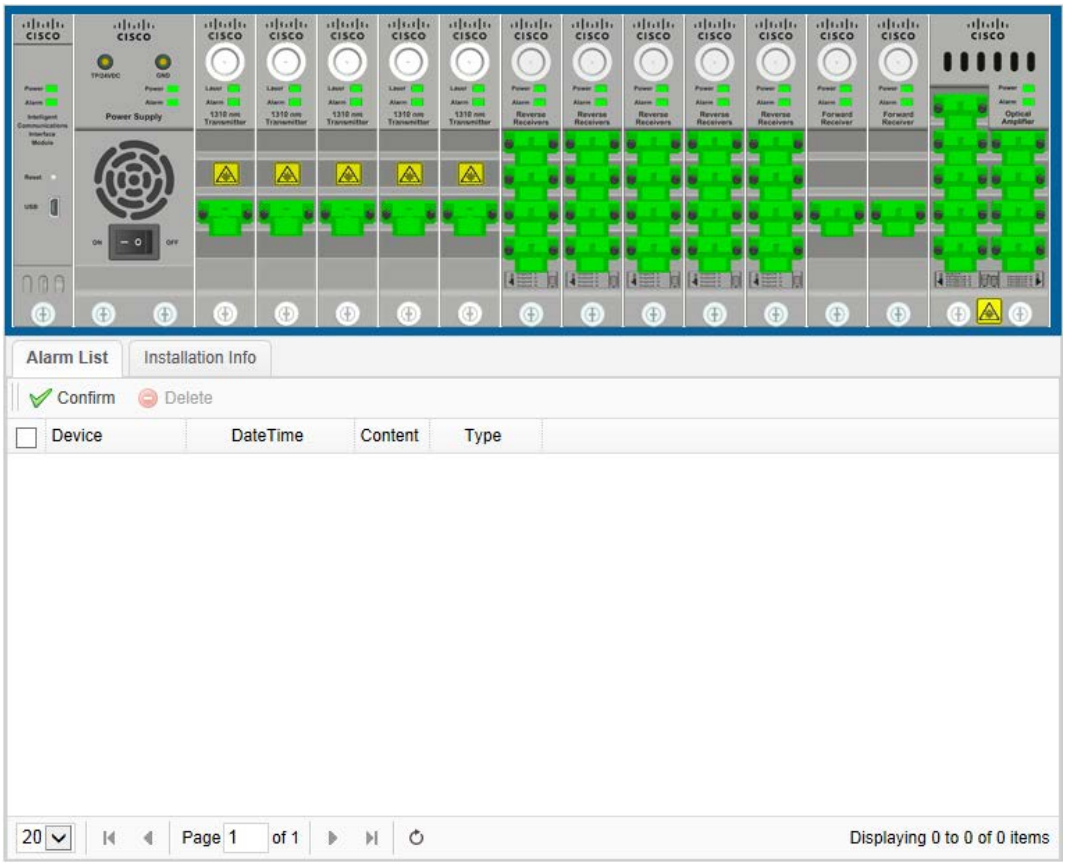
- See operation procedures below:

1. To delete a log: select the log to delete, and click the Delete () button in the toolbar to delete it.
2. Log query: enter query conditions: Date and Log Type, and click the Query button.

Monitoring Interfaces

Optical Platform

The default startup interface:



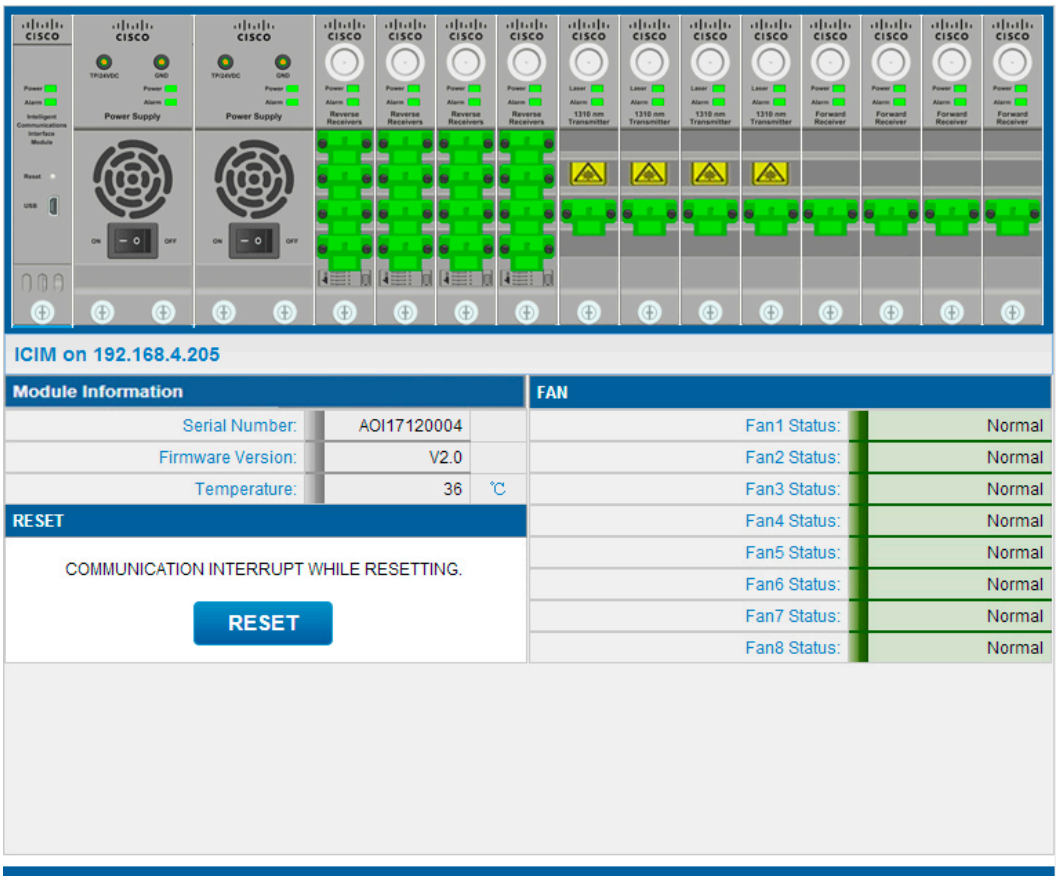
- The upper part of the interface shows current online statuses of the equipment;
- The lower part of the interface shows alarm information and installation information of the current equipment;
- The lower part of the interface also shows parameters of each module in corresponding slot.

Continued on next page

Intelligent Communications Interface Module (ICIM)

Basic Parameter

Click to select the OptoStar II intelligent communications interface module in the interface which shows all the local modules. The parameter interface of the intelligent communications interface module will display as illustrated below.



Continued on next page

The table below lists the basic parameters of the OptoStar II intelligent communications interface module.

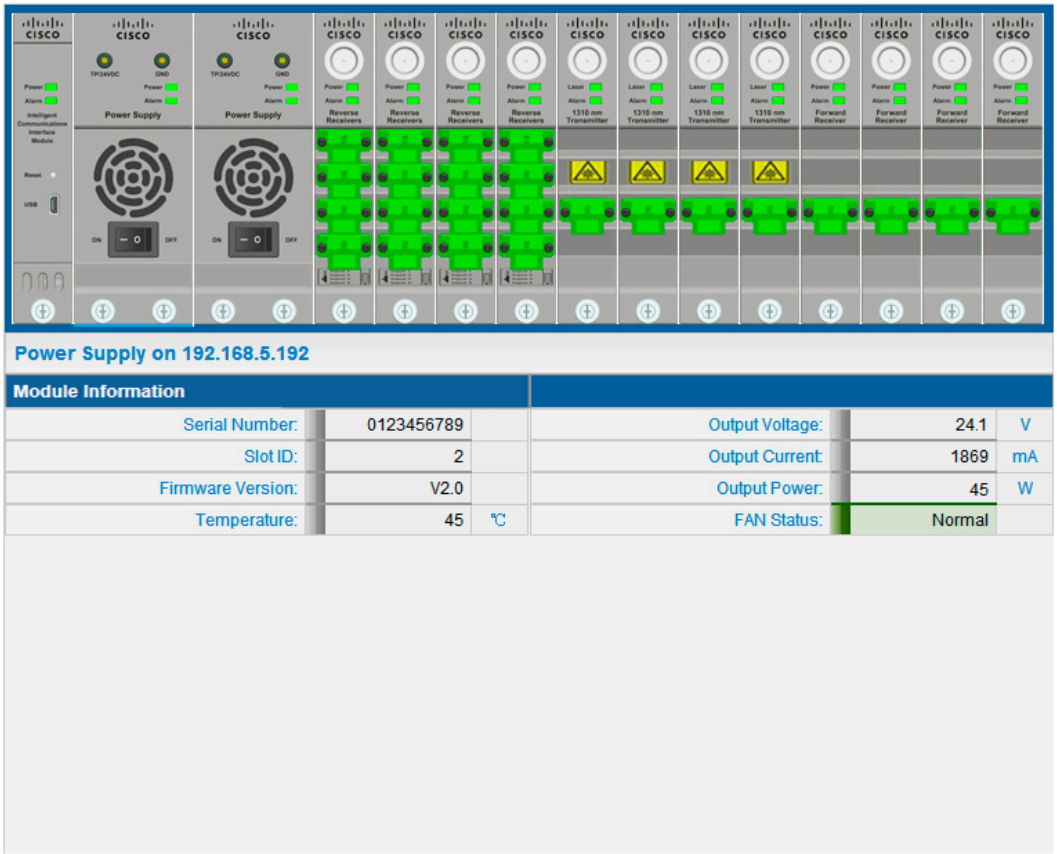
Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
Fan Status	
8 Chassis Fans Statuses	Shows if the statuses of 8 chassis fans are normal
Module Factory Reset	
Reset Key	Factory reset

Continued on next page

Power Supply Module

Basic Parameter

Click to select the OptoStar II power supply module in the interface which shows all the local modules. The parameter setting interface of the power supply module will display as illustrated below.



Continued on next page

The table below lists the basic parameters of the OptoStar II power supply module.

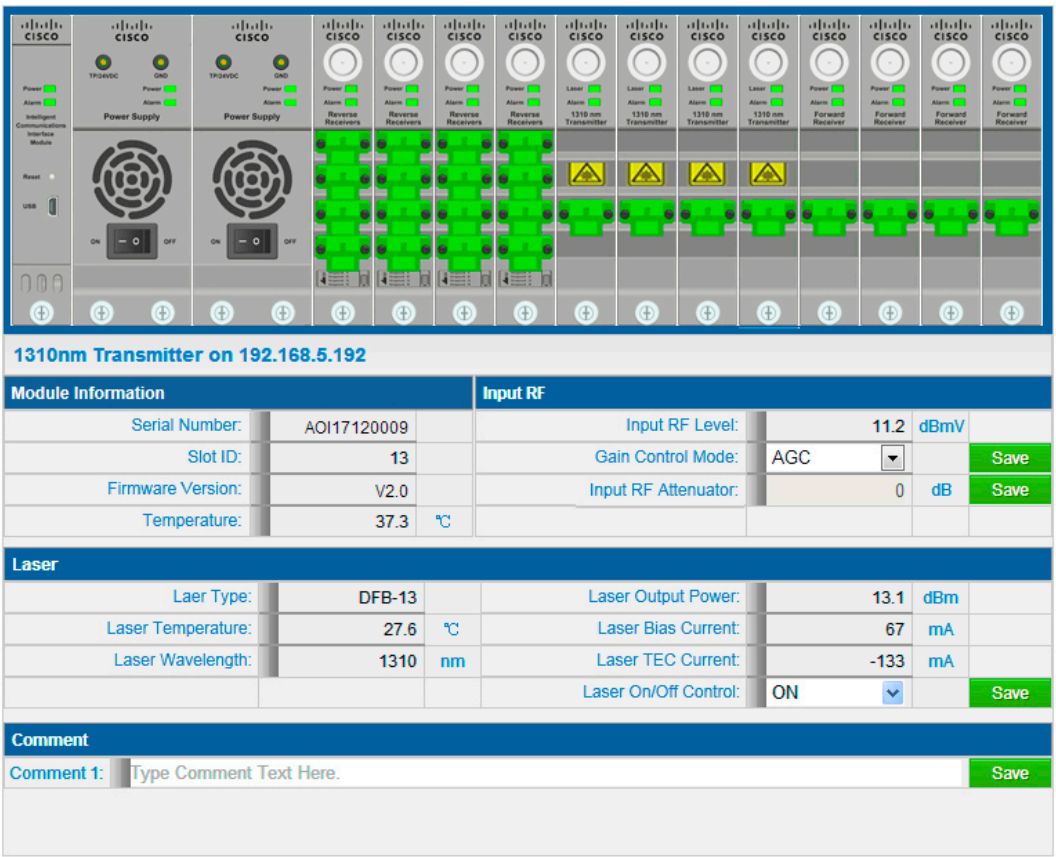
Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
Output Voltage	Shows module output voltage (V)
Output Current	Shows module output current (mA)
Output Power	Shows module output power (W)
Fan Status	Shows if the power supply fan status is normal

Continued on next page

1310 nm Forward Transmitter Module

Basic Parameter

Click to select the OptoStar II 1310 nm forward transmitter module in the interface which shows all the local modules. The parameter setting interface of the 1310 nm forward transmitter module will display as illustrated below.



Continued on next page

The table below lists the basic parameters of the OptoStar II 1310 nm forward transmitter module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
RF Input Information	
RF Input Level	Shows RF input level (dBmV)
Laser Information	
Laser Type	Shows laser type
Laser Temperature	Shows laser temperature (°C)
Wavelength	Shows wavelength (nm)
Optical Output Power	Shows optical output power (dBm)
Bias Current	Shows laser bias current (mA)
Cooling Current	Shows cooling current (mA)

Continued on next page

Setup Parameters

The table below lists the setup parameters of the OptoStar II 1310 nm forward transmitter module.

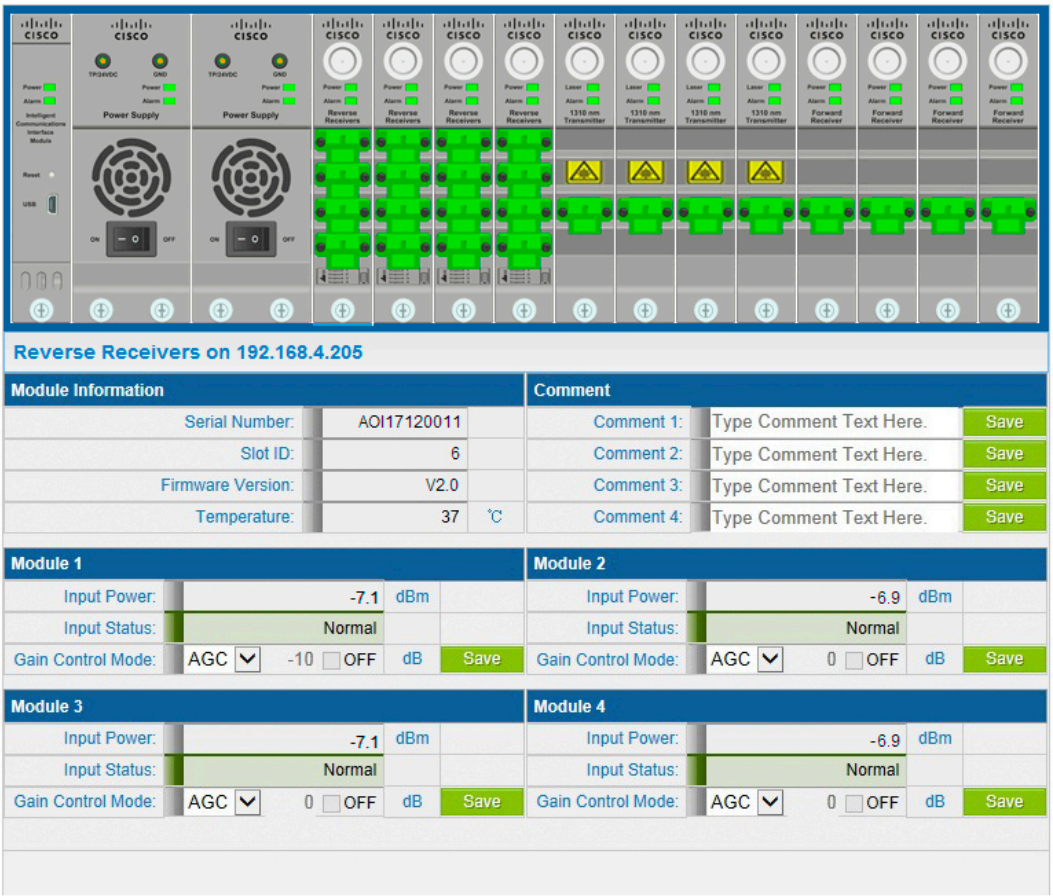
Setup Parameters	Description	Factory Default
RF Input Information		
Gain Control Mode Selection	Shows / sets AGC or MGC gain control mode	AGC mode
RF Attenuator	Shows / sets RF attenuation (dB) (In AGC mode the field is grayed out; In MGC mode the function is available: gain range -5 to +5 dB, with 0.5 dB step)	0 dB (In AGC mode)
Laser Information		
Laser Status	Shows / sets laser status: ON/OFF	Laser status: ON
Comment		
Comment	You may add applicable comments as required.	None

Continued on next page

Reverse Receiver Module

Basic Parameter

Click to select the OptoStar II reverse receiver module in the interface which shows all the local modules. The parameter setting interface of the reverse receiver module will display as illustrated below.



Continued on next page

The table below lists the basic parameters of the OptoStar II reverse receiver module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Module Firmware Version	Shows module firmware version
Slot ID	Shows slot ID
Module Temperature	Shows the current module temperature (°C)
Parameters for Each Module	
Optical Input Power	Shows optical input power (dBm)
Optical Input Status	Shows optical input status: Normal/Fault

Setup Parameters

The table below lists the setup parameters of the OptoStar II reverse receiver module.

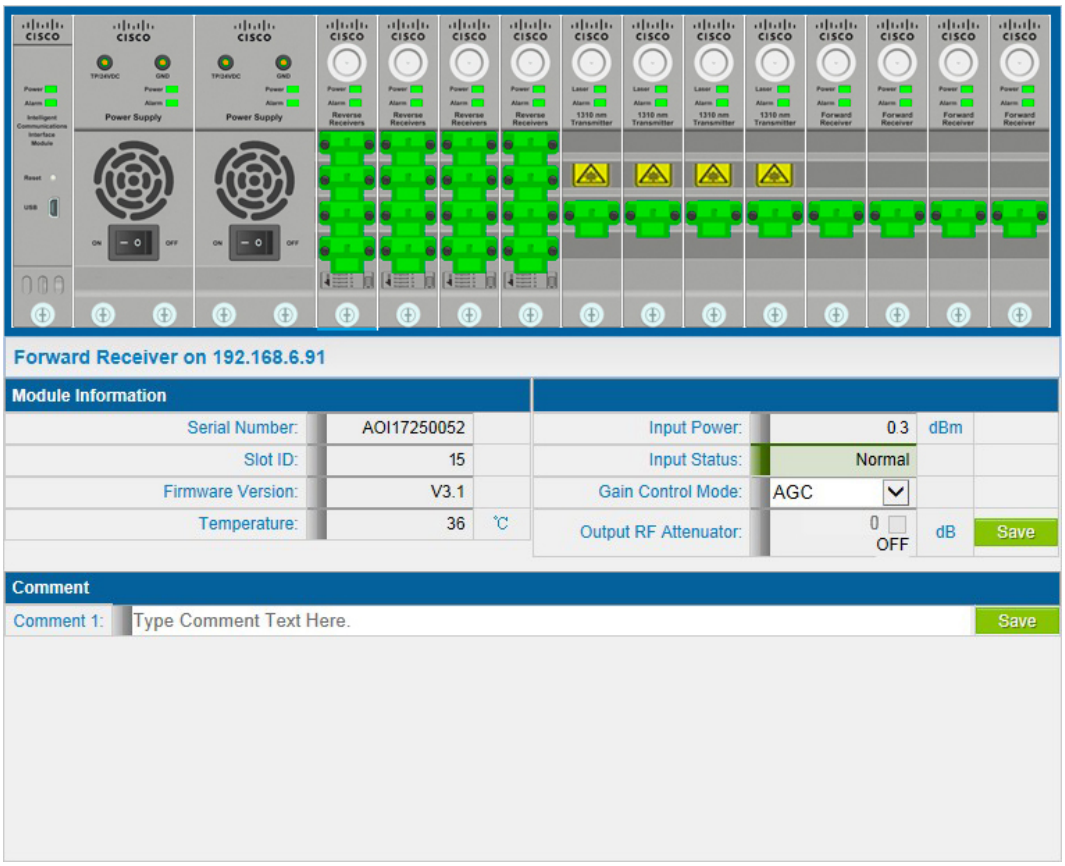
Setup Parameters	Description	Factory Default
Parameters for Each Module		
Gain Control Mode	Shows/sets AGC or MGC gain control mode	AGC mode for all four modules
	Shows/sets gain (In AGC mode the field is grayed out; In MGC mode the function is available: gain range -20 to 0 dB, turn-off at -30 dB, with 1 dB step)	0 dB (In AGC mode)
Comment		
Comment	You may add applicable comments as required.	None

Continued on next page

Forward Receiver Module

Basic Parameter

Click to select the OptoStar II forward receiver module in the interface which shows all the local modules. The parameter setting interface of the forward receiver module will display as illustrated below.



The table below lists the basic parameters of the OptoStar II forward receiver module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
Optical Input Power	Shows optical input power (dBmV)
Optical Input Status	Shows optical input status: Normal/Fault

Continued on next page

Setup Parameters

The table below lists the setup parameters of the OptoStar II forward receiver module.

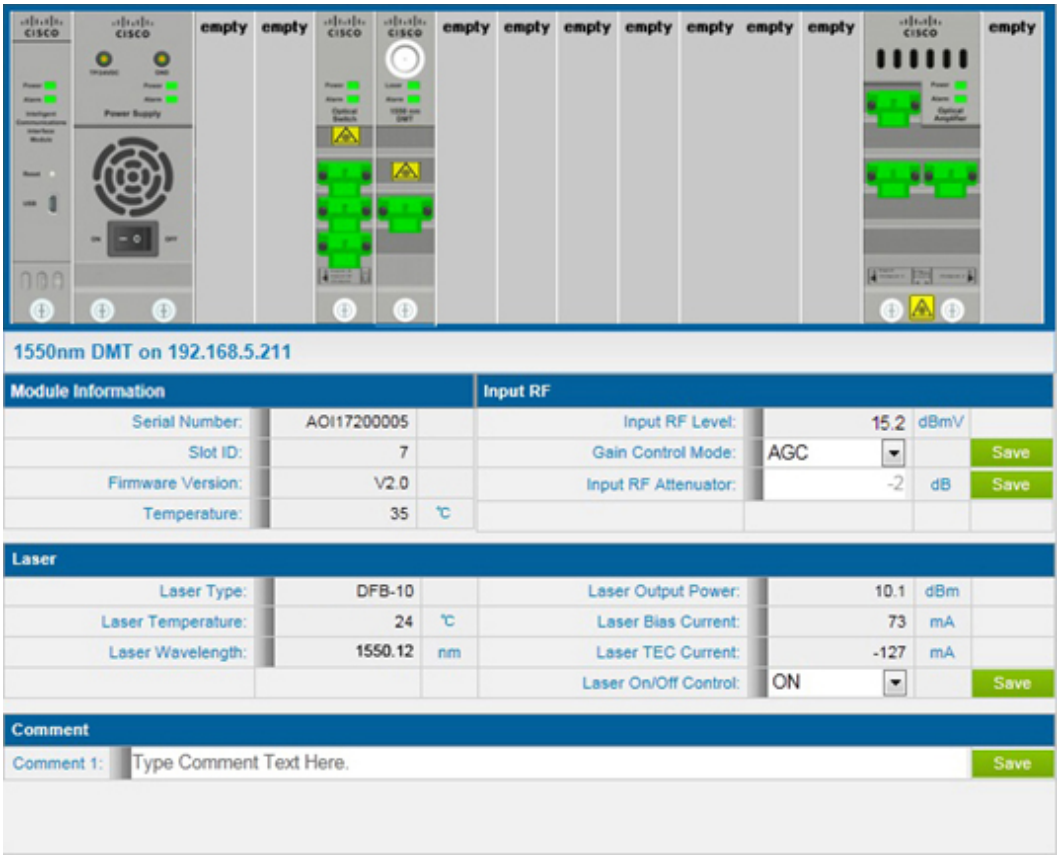
Setup Parameters	Description	Factory Default
RF Output Information		
Gain Control Mode Selection	Shows / sets AGC or MGC gain control mode	AGC mode
RF Attenuator	Shows / sets RF attenuation (dB) (In AGC mode the field is grayed out; In MGC mode the function is available: gain range -20 to 0 dB, turn-off at -30 dB, with 1 dB step)	0 dB (In AGC mode)
Comment		
Comment	You may add applicable comments as required.	None

Continued on next page

1550 nm DWDM Forward Direct Modulation Transmitter Module

Basic Parameter

Click to select the OptoStar II 1550 nm DWDM forward direct modulation transmitter module in the interface which shows all the local modules. The parameter setting interface of the 1550 nm DWDM forward direct modulation transmitter module will display as illustrated below.



Continued on next page

The table below lists the basic parameters of the OptoStar II 1550 nm DWDM forward direct modulation transmitter module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
RF Input Information	
RF Input Level	Shows RF input level (dBmV)
Laser Information	
Laser Type	Shows laser type
Laser Temperature	Shows laser temperature (°C)
Wavelength	Shows ITU wavelength
Optical Output Power	Shows optical output power (dBm)
Bias Current	Shows laser bias current (mA)
Cooling Current	Shows cooling current (mA)

Continued on next page

Setup Parameters

The table below lists the setup parameters of the OptoStar II 1550 nm DWDM forward direct modulation transmitter module.

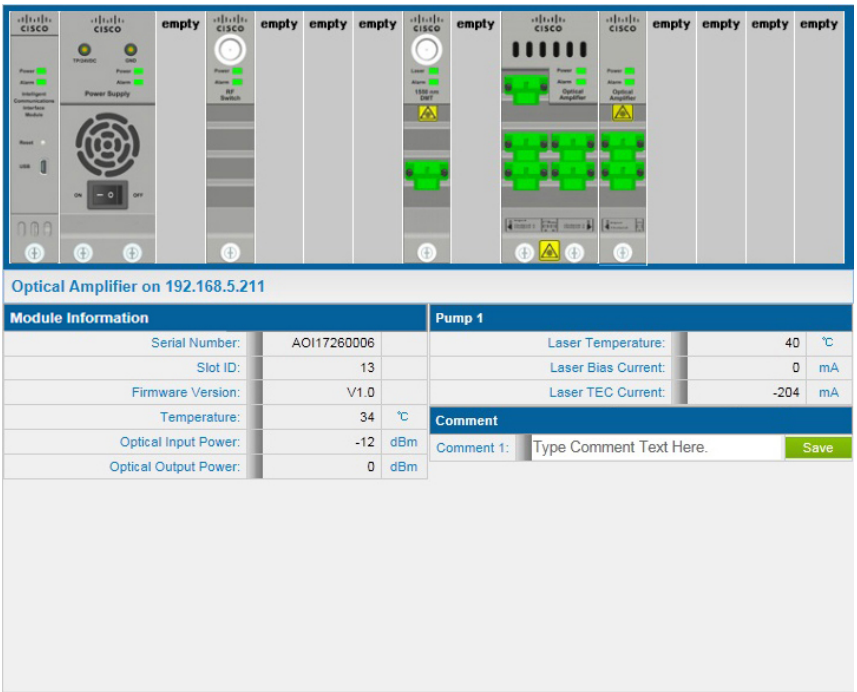
Setup Parameters	Description	Factory Default
RF Input Information		
Gain Control Mode Selection	Shows / sets AGC or MGC gain control mode	AGC mode
RF Attenuator	Shows / sets RF attenuation (dB) (In AGC mode the field is grayed out; In MGC mode the function is available: gain range -5 to +5 dB, with 0.5 dB step)	0 dB (In AGC mode)
Laser Information		
Laser Status	Shows / sets laser status: ON/OFF	Laser status: ON
Comment		
Comment	You may add applicable comments as required.	None

Continued on next page

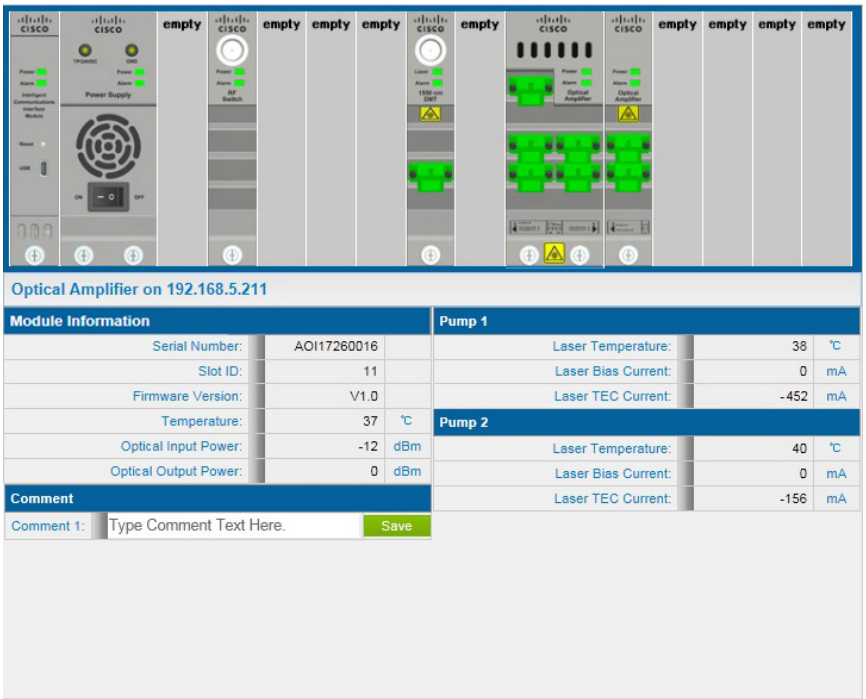
1550 nm Optical Amplifier Module

Basic Parameter

Click to select the OptoStar II 1550 nm optical amplifier module in the interface which shows all the local modules. The parameter setting interface of the 1550 nm optical amplifier module will display, for the parameter setting interface of one pump is shown as below.



The parameter setting interface of two pumps is shown as below.



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The table below lists the basic parameters of the OptoStar II 1550 nm optical amplifier module.

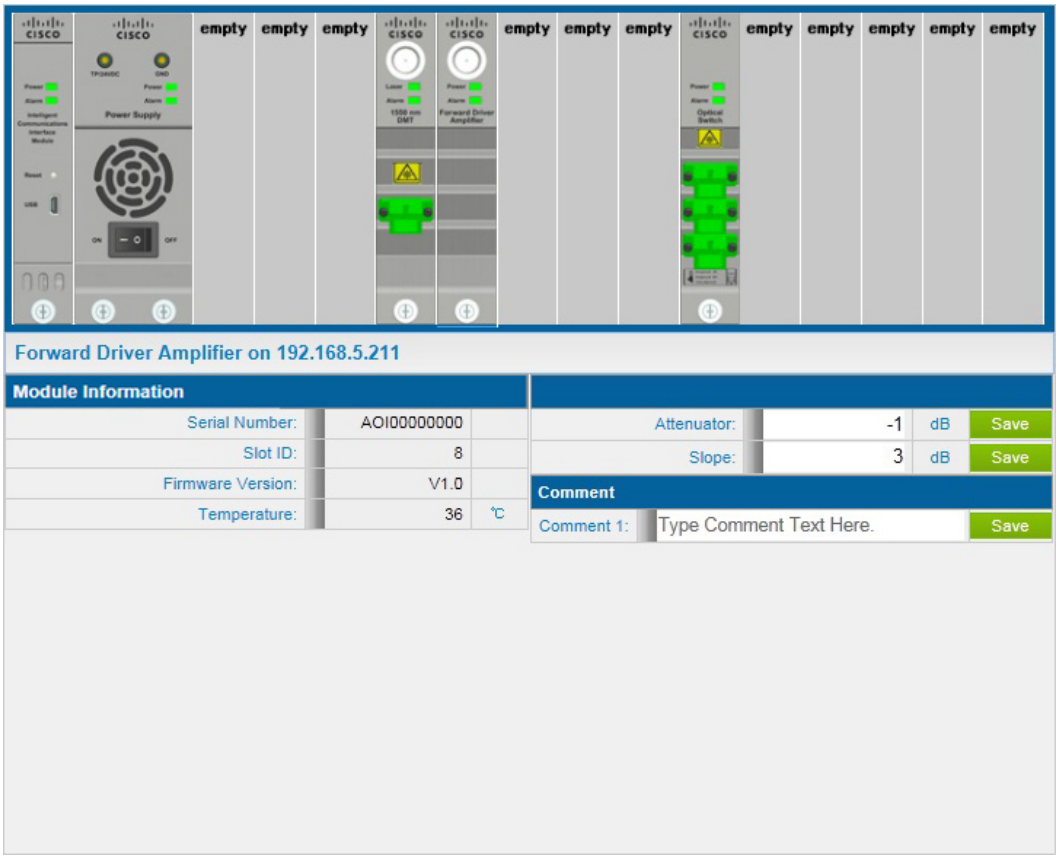
Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
Optical Power Information	
Optical Input Power	Shows optical input power (dBm)
Optical Output Power	Shows optical output power (dBm)
Laser Information	
Laser Temperature	Shows laser temperature (°C)
Drive Current	Shows laser drive current (mA)
Cooling Current	Shows cooling current (mA)

Continued on next page

Forward Driver Amplifier Module

Basic Parameter

Click to select the OptoStar II forward driver amplifier module in the interface which shows all the local modules. The parameter setting interface of the forward driver amplifier module will display as illustrated below.



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The table below lists the basic parameters of the OptoStar II forward driver amplifier module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)

Setup Parameters

The table below lists the alarm parameters of the OptoStar II forward driver amplifier module.

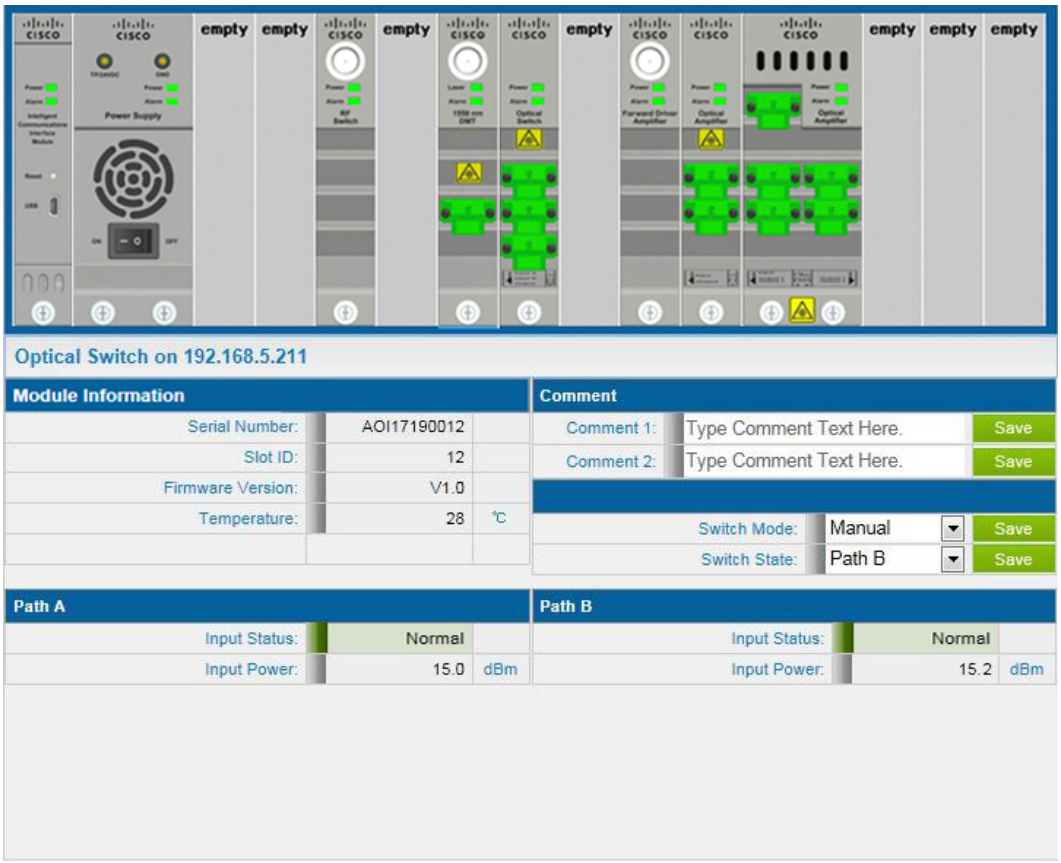
Setup Parameters	Description	Factory Default
RF Input Information		
Output Tilt	Set output tilt (range: 0 to 9 dB)	0 dB
Output Gain	Set output gain (range: -9 to 0 dB)	0 dB
Comment		
Comment	You may add applicable comments as required.	None

Continued on next page

Optical Switch Module

Basic Parameter

Click to select the OptoStar II optical switch module in the interface which shows all the local modules. The parameter setting interface of the optical switch module will display as illustrated below.



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The table below lists the basic parameters of the OptoStar II optical switch module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
Optical Input Power Information	
Optical Input Power in Channel A/B	Shows optical input power in channel A/B (dBm)

Setup Parameters

The table below lists the setup parameters of the OptoStar II optical switch module.

Setup Parameters	Description	Factory Default
Optical Signal Input Information		
Switching Mode Selection	Shows/sets Auto/Manual switching mode	Auto switching mode
Channel A/B Selection	Shows/sets channel A/B	Channel A
Comment		
Comment	You may add applicable comments as required.	None

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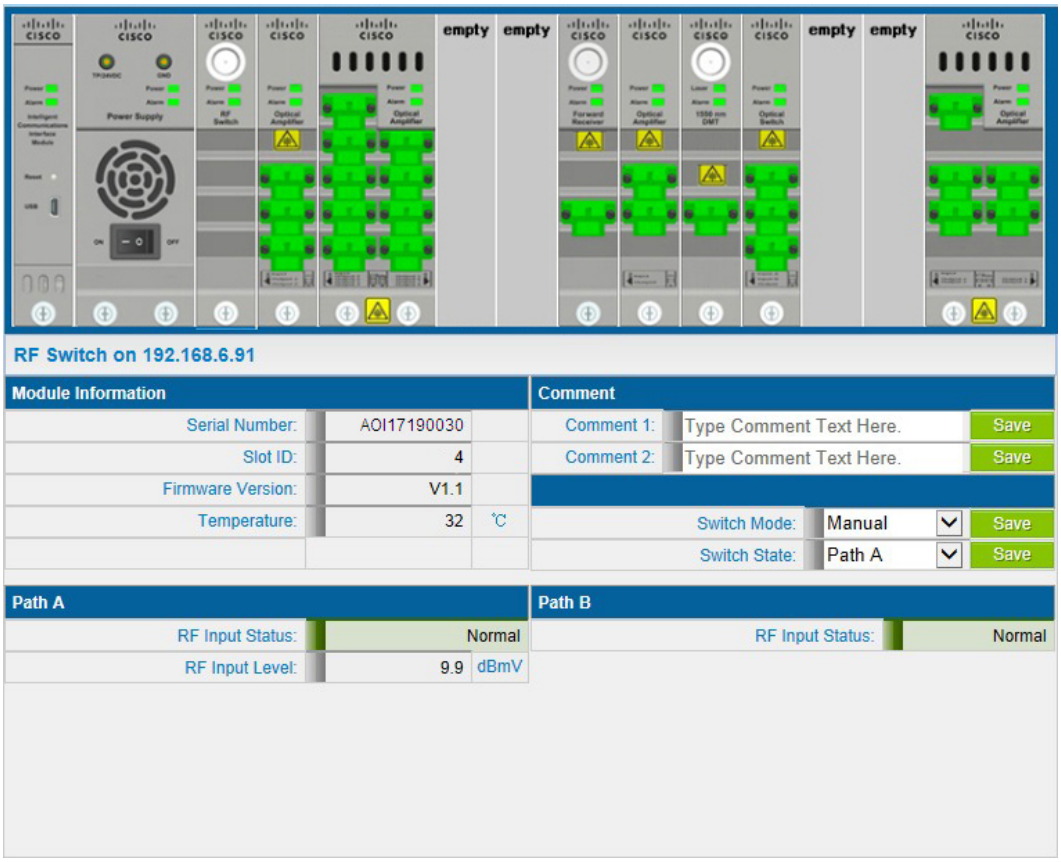
RF Switch Module

Basic Parameter

Click to select the OptoStar II RF switch module in the interface which shows all the local modules. The parameter setting interface of the RF switch module will display as illustrated below.



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The table below lists the basic parameters of the OptoStar II RF switch module.

Basic Parameter	Description
Module Basic Information	
Module Node Location	Shows the node IP where the modules are located
S/N	Shows module serial number
Slot ID	Shows the slot ID the module is placed
Module Firmware Version	Shows firmware version
Module Temperature	Shows the current module temperature (°C)
RF Input Information	
RF Input Status in Channel A/B	Shows RF input status in channel A/B

Setup Parameters

The table below lists the setup parameters of the OptoStar II RF switch module.

Setup Parameters	Description	Factory Default
RF Input Information		
Switching Mode Selection	Shows/sets Auto/Manual switching mode	Auto switching mode
Channel A/B Selection	Shows/sets channel A/B	Channel A
Comment		
Comment	You may add applicable comments as required.	None

Chapter 4 Troubleshooting

Overview

This chapter describes the troubleshooting procedures for the OptoStar II network management system (NMS).

Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to install and operate this software. Otherwise, equipment damage may occur.

In This Chapter

General Troubleshooting Information

This troubleshooting information describes the most common errors and gives typical troubleshooting procedures.

Error 1

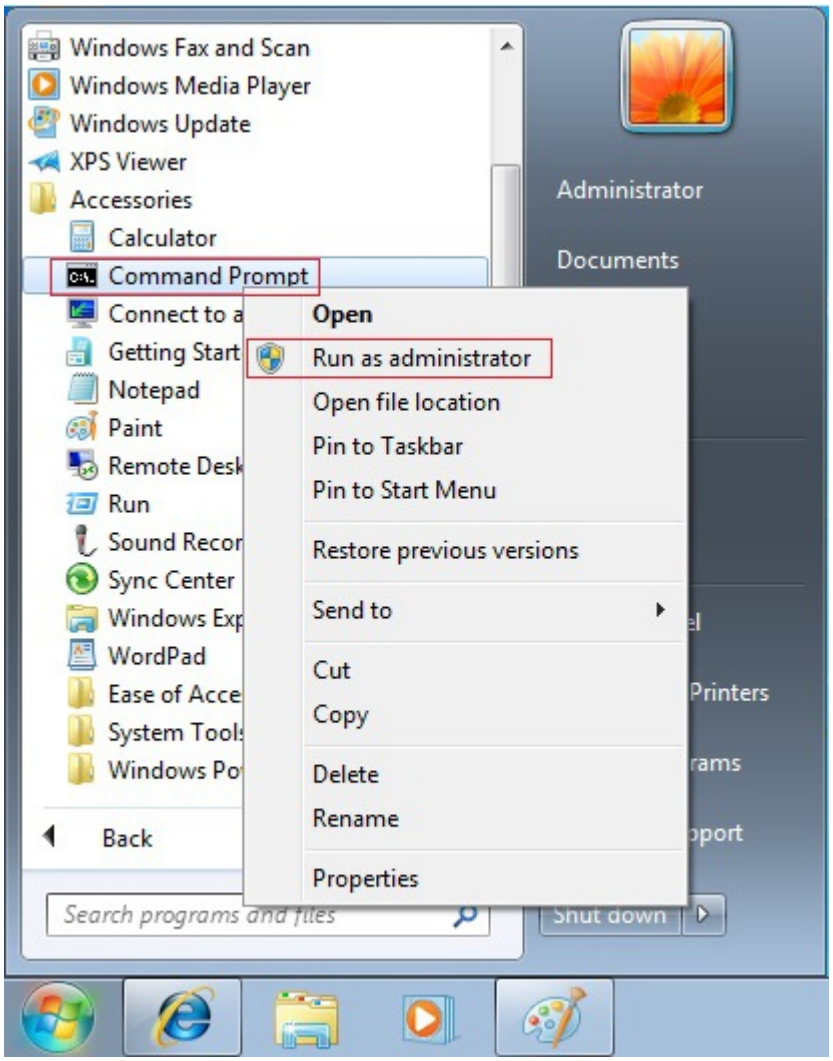
The installation order of IIS and .NET Framework

Error Description

Microsoft .Net Framework 4.0 must be installed after the installation of IIS. Otherwise the asp.net interface cannot be resolved properly. If Microsoft .Net Framework 4.0 has been installed before the installation of IIS, please follow the instructions below (taking Windows 7 as an example):

Troubleshooting

1. Click Start -> All Programs -> Accessories -> right click Command prompt, and then select Run as administrator.



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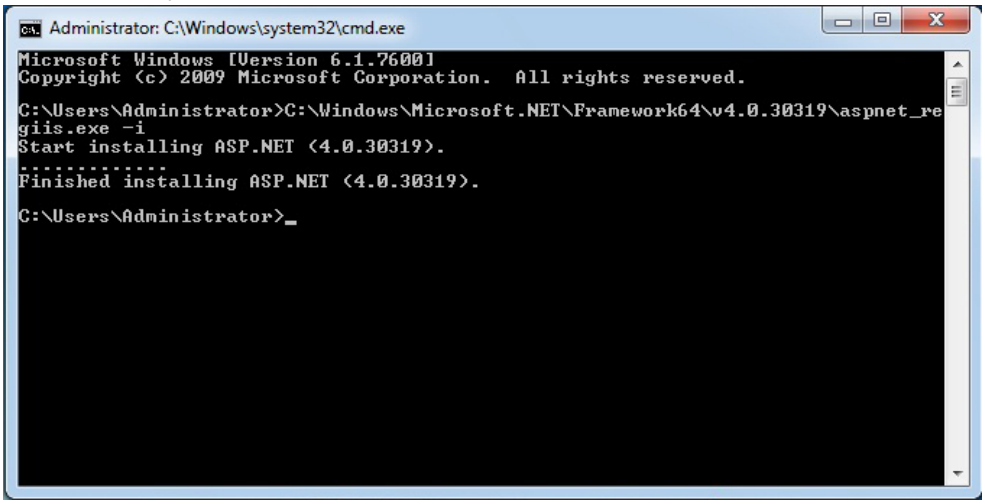
- For 32-bit system, enter C:\Windows\Microsoft.NET\Framework\v4.0.30319\aspnet_regiis.exe –i, and press the return key to confirm;
- For 64-bit system, enter C:\Windows\Microsoft.NET\Framework64\v4.0.30319\aspnet_regiis.exe –i, and press the return key to confirm;
  Take 64-bit system as an example as illustrated below:



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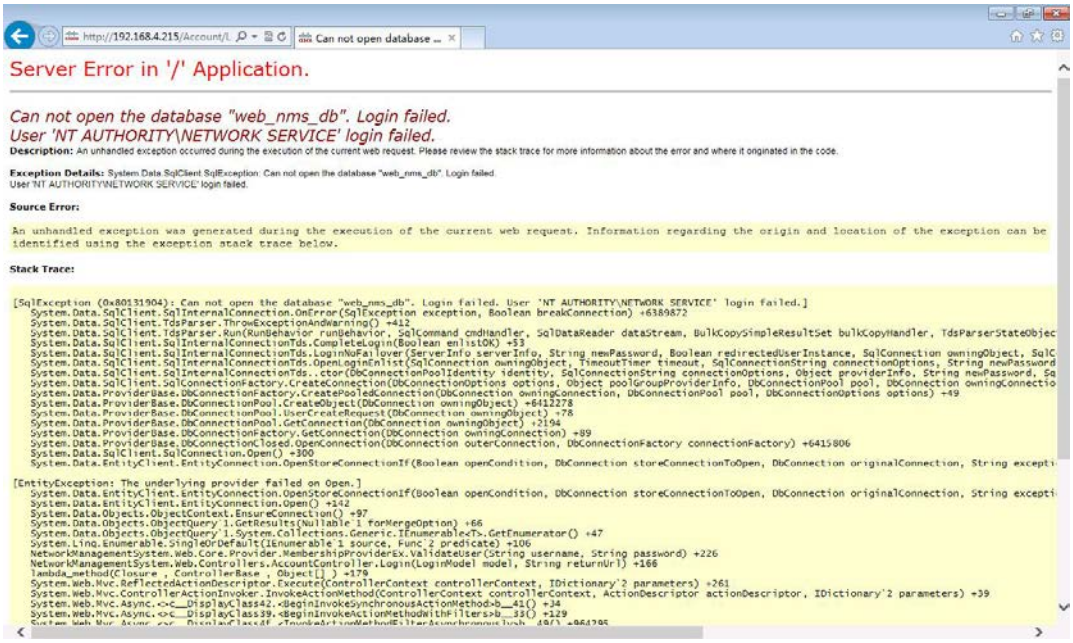
Error 2

User “NT AUTHORITY\NETWORK SERVICE” login failed.

Error Description

See the screenshot below.



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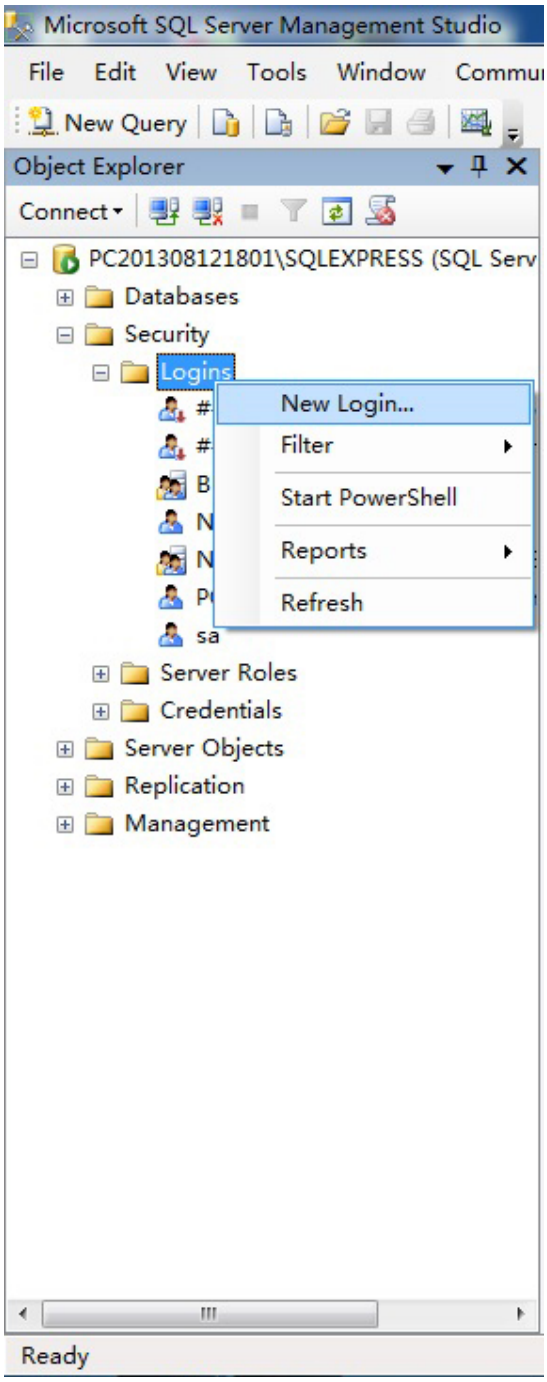
Troubleshooting

1. Start SQL Server Management Studio on the machine installed with SQL Server 2008, and connect to the database with Windows identity.
2. When logged in, point to Security -> Login in the left list, and right-click to select New.



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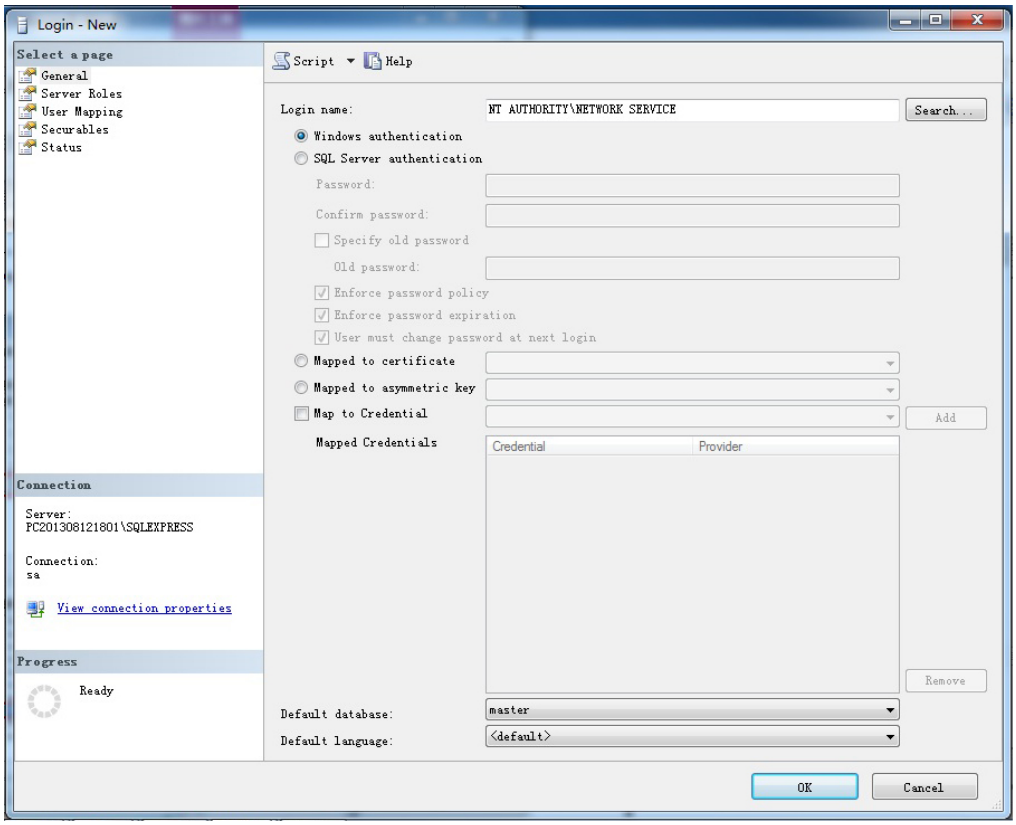
3. In the Login – New dialog box, enter “NT AUTHORITY\NETWORK SERVICE” as shown below:



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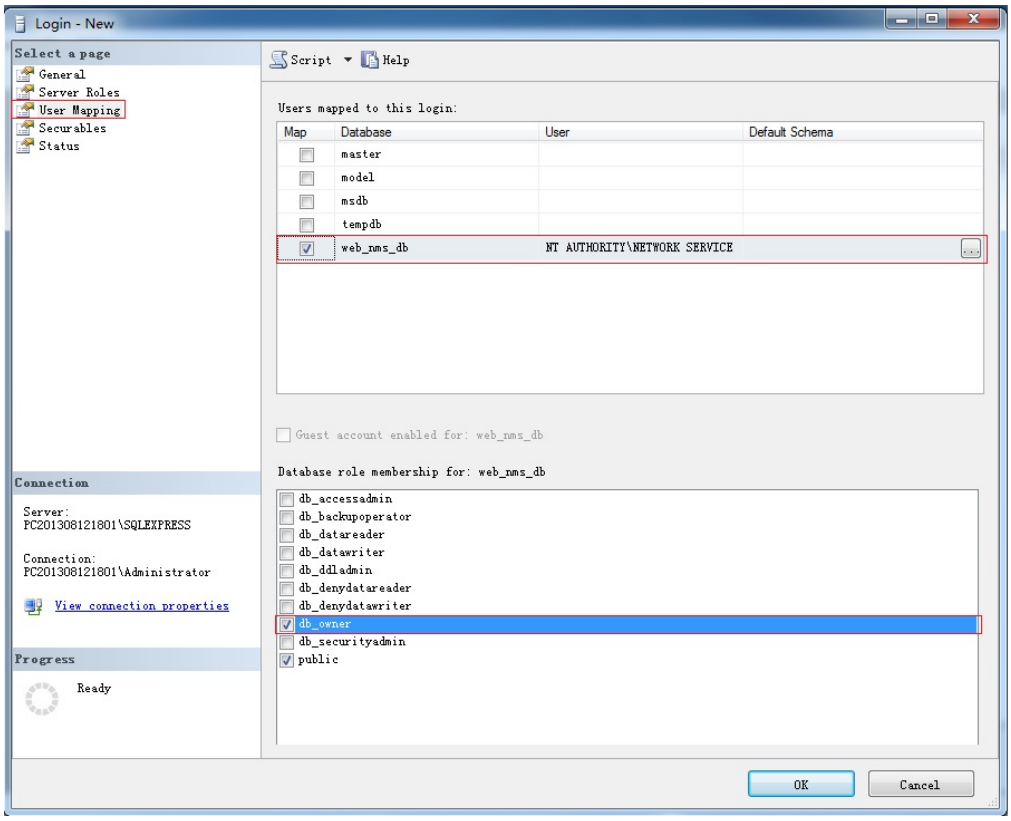
4. On the User Mapping page, check web_nms_db and db_owner as shown below:



5. Click OK.

Additional Assistance

If you need additional assistance, telephone one of our customer support or your local service center. See ***Customer Support Information*** (on page 5-1) for more details.

Chapter 5 Customer Support Information

Overview

This chapter contains information on obtaining product support.

In This Chapter

IF…	THEN…
you have general questions about this product	Contact your distributor or sales agent for product information or refer to product data sheets on www.cisco.com.
you have technical questions about this product	Call the nearest Technical Service center or Cisco office.
you have customer service questions or need a return material authorization (RMA) number	Call the nearest Customer Service center or Cisco office.

Support Telephone Numbers

This table lists the Technical Support and Customer Service numbers for your area.

Region	Centers	Telephone and Fax Numbers
North America	Atlanta, Georgia United States	For *Technical Support*, call: Toll-free: 1-800-722-2009 Local: 678-277-1120 (Press **2** at the prompt) For *Customer Service*, call: Toll-free: 1-800-722-2009 Local: 678-277-1120 (Press **3** at the prompt) Fax: 770-236-5477 E-mail: customer-service@cisco.com
Europe, Middle East, Africa	Belgium	For *Technical Support*, call: Telephone: 32-56-445-197 or 32-56-445-155 Fax: 32-56-445-061 For *Customer Service*, call: Telephone: 32-56-445-444 Fax: 32-56-445-051 E-mail: service-elc@cisco.com
Japan	Japan	Telephone: 82-2-3429-8800 Fax: 82-2-3452-9748 E-mail: songk@cisco.com

Continued on next page

Region	Centers	Telephone and Fax Numbers
Korea	Korea	Telephone: 82-2-3429-8800 Fax: 82-2-3452-9748 E-mail: songk@cisco.com
China (mainland)	China	Telephone: 86-21-2401-4433 Fax: 86-21-2401-4455 E-mail: repaircentercn@external.cisco.com
All other Asia-Pacific countries & Australia	Hong Kong	Telephone: 852-2588-4746 Fax: 852-2588-3139 E-mail: support.apr@sciatl.com
Brazil	Brazil	Telephone: 11-55-08-9999 Fax: 11-55-08-9998 E-mail: fattinl@cisco.com or ecavalhe@cisco.com
Mexico, Central America, Caribbean	Mexico	For *Technical Support*, call: Telephone: 52-3515152599 Fax: 52-3515152599 For *Customer Service*, call: Telephone: 52-55-50-81-8425 Fax: 52-55-52-61-0893
All other Latin America countries	Argentina	For *Technical Support*, call: Telephone: 54-23-20-403340 ext 109 Fax: 54-23-20-403340 ext 103 For *Customer Service*, call: Telephone: 770-236-5662 Fax: 770-236-5888 E-mail: keillov@cisco.com

Return for Repairing

Introduction

Before returning your product, you must obtain a Return Material Authorization (RMA) number. Call the nearest Customer Service center and follow their instructions.

Procedures of returning your product to Cisco for repairing:

- Obtain RMA number and mailing address
- Package and mail the product to be repaired

Obtain RMA number and mailing address

Before return your products, you must obtain a RMA number.

RMA number is valid for 60 days. If your RMA number expires, you must call your customer service representative to update it before returning your equipment. You can return your product after updating the RMA number. Otherwise, your RMA application may be postponed.

Follow the procedures below to obtain your RMA number and mailing address:

1. Contact your customer service representative to apply for a new RMA number, or update an existing RMA number. Obtain customer service numbers for your area in ***Obtaining Product Support*** (on Page 5-2).
2. Provide the following information to your customer service representative:
   - Company name, contact person, telephone number, e-mail address and fax number.
   - Product name, model, part number, SN (if any)
   - Number of returned products
   - Return reason and Repairing/Maintenance Permissions
   - Any related service detail
3. When your customer service representative sends a RMA number to you, you will be required to fill in a purchase order or make advance payment to cover estimated repair costs.

   Note: Users who pay by credit card or cash will receive a proforma invoice after the repair work is completed, which lists breakdown of repair costs.

   Within 15 days upon your receipt of the proforma invoice, the customer service center must receive a purchase order number. During the warranty period, product subject to destruction, misuse, modification, or no problems found would generate costs. The product with additional generated costs will not be returned to the customer until valid P/O number is received.

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4. Users can confirm receipt of the RMA number via e-mail or fax. The RMA will list details such as RMA number, verified products to be returned and number of returned products, mailing address and RMA clauses.
   Note: Also, users can obtain and complete a RMA application form, and send it to customer service representative via fax, or
   e-mail: repaircentercn@external.cisco.com

Packaging and Mailing

Follow the steps below to package and return your product to Cisco.

Do you have the original packaging boxes and packaging materials?

- Yes: use the original packaging boxes and packaging materials to package your product
- No: use sturdy corrugated cardboard box meeting transportation requirements to package your product, and fill with packing materials.

Important: Users are responsible for safely mailing products to Cisco without any damage. Products with damage caused during transportation and due to improper packaging will be refused and returned to the user. In such case, the costs will be borne by the user.

Note: Do not return any power cable, accessory cable, or other accessories. Your customer service representative will provide specific instructions on how to order and replace any power cable, accessory cable, or other accessories.

Please fill in the following information on the external surface of the shipping box:

- RMA number
- User name
- Full address of the user
- Telephone number of the user
- "Attention: Factory Service”

Important: RMA number must be clearly marked on all returned products, packaging boxes, and accompanying documents. If the RMA number received by the factory service department is illegible, the RMA handling procedures will be delayed. The recipient for all returned products must be “Factory Services”.

Returned products must be mailed to the address specified on the confirmation email or fax sent by the customer service representative.

Continued on next page

Note: Cisco does not accept Freight Collect. Make sure that you choose freight prepaid method and purchase transportation insurance. The user should bear both freights to Cisco and all related import and export tariffs for any returned product, whether it's within the warranty period or not. For the product within the warranty period, Cisco will pay the freight when shipping repaired product to the user.

International Transportation: Fill in Cisco as International Transport Recipient, and state the notified party on the waybill as "international freight transport clearance contact".

Upon delivery of the equipment with complete RMA number, the receiving department will notify the user via fax or e-mail, and confirm the received products and the quantity. Please carefully check the confirmation letter to ensure that the products and the quantity received by Cisco are consistent with your shipment information.

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