



CHAPTER 70

Configuring MIB Support

This chapter describes how to configure SNMP and MIB support for the Cisco 4500 series switch. It includes the following sections:

- [Determining MIB Support for Cisco IOS Releases, page 70-1](#)
- [Using Cisco IOS MIB Tools, page 70-2](#)
- [Downloading and Compiling MIBs, page 70-2](#)
- [Enabling SNMP Support, page 70-4](#)



Note

For complete syntax and usage information for the switch commands used in this chapter, first look at the *Cisco Catalyst 4500 Series Switch Command Reference* and related publications at this location:

<http://www.cisco.com/en/US/products/hw/switches/ps4324/index.html>

If the command is not found in the Catalyst 4500 Series Switch Command Reference, it will be found in the larger Cisco IOS library. Refer to the *Catalyst 4500 Series Switch Cisco IOS Command Reference* and related publications at this location:

<http://www.cisco.com/en/US/products/ps6350/index.html>

Determining MIB Support for Cisco IOS Releases

To determine which MIBs are included in the Cisco IOS release running on the Cisco 4500 series switch, follow these steps:

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- Step 1** Go to the Cisco MIBs Support page:
<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>
- Step 2** Under Cisco Access Products, select a **Cisco 4500 switch** to display a list of MIBs supported on the Cisco 4500 switches.
- Step 3** Scroll through the list to find the release you are interested in.
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Using Cisco IOS MIB Tools

This section describes how to access the Cisco MIB tools page. The MIB Locator finds MIBs in Cisco IOS software releases. You can find general MIB information, instructions about how to use the SNMP Object Navigator which translates SNMP object identifiers (OIDs) into SNMP names, and how to load Cisco MIBs.

To access the Cisco IOS MIB tools site, follow these steps:

Step 1 Go to the Cisco Products and Services page:
<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

Step 2 Click **MIB Locator** to launch the application.

The MIB Locator application allows you to find a MIB in the following three ways.

- From the MIB Locator page, you can:
 - Click the drop-down menu and select the desired Cisco IOS software release.
 - From the Platform Family menu, select the appropriate feature set: **CAT4500-SUP2-PLUS**, **CAT4500-SUP2-PLUS-TS**, **CAT4500-SUP3**, **CAT4500-SUP4**, **CAT4500-SUP5**, **CAT4500-SUP5-10gGE2**, and **CAT4948**. If you select the platform first, the system displays only those releases and feature sets that apply to the Cisco 4500 series switch.
 - From the Feature Set menu, select **Service Provider W/VIP**.
- From the MIB Locator page, you can search by image name. For example, enter the following and click the **Submit** button:
 c7200-js56i-mz.12.0-1
- From the MIB Locator page, you can search for the MIB from the list of MIBs in the menu. You can select one, or for multiple selections, hold down the **CTRL** key, then click the **Submit** button.



Note After you make a selection, follow the links and instructions.

Downloading and Compiling MIBs

The following sections provide information about how to download and compile MIBs for the Cisco 4500 series switch:

- [Guidelines for Working with MIBs, page 70-3](#)
- [Downloading MIBs, page 70-3](#)
- [Compiling MIBs, page 70-4](#)

Guidelines for Working with MIBs

While working with MIBs, consider the following guidelines:

- Mismatches on datatype definitions might cause compiler errors or warning messages. Although Cisco MIB datatype definitions are not mismatched, some standard RFC MIBs do mismatch. For example:

```
MIB A defines: SomeDatatype ::= INTEGER(0..100)
MIB B defines: SomeDatatype ::= INTEGER(1..50)
```

This example is considered to be a trivial error and the MIB loads successfully with a warning message.

The next example is considered as a nontrivial error (even though the two definitions are essentially equivalent), and the MIB is not successfully parsed.

```
MIB A defines: SomeDatatype ::= DisplayString
MIB B defines: SomeDatatype ::= OCTET STRING (SIZE(0..255))
```

If your MIB compiler treats these as errors, or you want to delete the warning messages, edit one of the MIBs that define this same datatype so that the definitions match.

- Many MIBs import definitions from other MIBs. If your management application requires MIBs to be loaded, and you experience problems with undefined objects, you might want to load the following MIBs in this order:

```
SNMPv2-SMI.my
SNMPv2-TC.my
SNMPv2-MIB.my
RFC1213-MIB.my
IF-MIB.my
CISCO-SMI.my
CISCO-PRODUCTS-MIB.my
CISCO-TC.my
```

- For additional information and SNMP technical tips, go to the following URL:
http://www.cisco.com/en/US/tech/tk648/tk362/technologies_tech_note09186a0080094aa5.shtml
- For a list of SNMP OIDs assigned to MIB objects, go to the following URL and click on **SNMP Object Navigator** and follow the links:
<http://tools.cisco.com/ITDIT/MIBS/servlet/index>



Note You must have a Cisco CCO name and password to access the MIB Locator.

- For information about how to download and compile Cisco MIBs, go to the following URL:
http://www.cisco.com/en/US/tech/tk648/tk362/technologies_tech_note09186a00800b4cee.shtml

Downloading MIBs

to download the MIBs onto your system if they are not already present, follow these steps:

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- Step 1** Review the guidelines in the previous section (“[Guidelines for Working with MIBs](#)”).
- Step 2** Go to one of the following Cisco URLs. If the MIB you want to download is not there, try the other URL; otherwise, go to one of the URLs in Step 5.

<ftp://ftp.cisco.com/pub/mibs/v2>

<ftp://ftp.cisco.com/pub/mibs/v1>

- Step 3** Click the link for a MIB to download that MIB to your system.
- Step 4** Select **File > Save** or **File > Save As** to save the MIB on your system.
- Step 5** You can download industry-standard MIBs from the following URL:
- <http://www.oidview.com/mibs/0/md-0-1.html>

Compiling MIBs

If you plan to integrate the Cisco 4500 series switch with an SNMP-based management application, then you must also compile the MIBs for that platform. For example, if you are running HP OpenView on a UNIX operating system, you must compile Cisco 4500 series switch MIBs with the HP OpenView Network Management System (NMS). For instructions, see the NMS documentation.

Enabling SNMP Support

The following procedure summarizes how to configure the Cisco 4500 series switch for SNMP support.

For detailed information about SNMP commands, see the following Cisco documents:

- *Cisco IOS Release 12.4 Configuration Fundamentals and Network Management Configuration Guide*, “Monitoring the Router and Network” section, available at the following URL:
http://www.cisco.com/en/US/products/ps6350/products_installation_and_configuration_guides_list.html
- *Cisco IOS Release 12.3 Configuration Fundamentals and Network Management Command Reference*, Part 3: System Management Commands, “Router and Network Configuration Commands” section, available at the following URL:
http://www.cisco.com/en/US/docs/ios/12_3/configfun/command/reference/fun_r.html

To configure the Cisco 4500 series switch for SNMP support, follow these steps:

- Step 1** Establish your basic SNMP configuration using the command line interface (CLI) on the router. Note that these basic configuration commands are issued for SNMP version 2c. For SNMP version 3, you must also set up SNMP users and groups. Refer to the preceding list of documents for command and set up information.
- Define SNMP read-only and read-write communities:


```
Router (config)# snmp-server community Read_Only_Community_Name ro
Router (config)# snmp-server community Read_Write_Community_Name rw
```
 - Configure SNMP views (to limit the range of objects accessible to different SNMP user groups):


```
Router (config)# snmp-server view view_name oid-tree {included | excluded}
```
- Step 2** Identify (by IP address) the host to receive SNMP notifications from the router:
- ```
Router (config)# snmp-server host host
```

**Step 3** Configure the router to generate notifications. You can use keywords to limit the number and types of messages generated.

```
Router (config)# snmp-server enable traps [notification-type] [notification-option]
```

**Step 4** (Optional) Configure the router to generate SNMP notifications released to field replaceable units (FRUs):

```
Router (config)# snmp-server enable traps fru-ctrl
```

**Step 5** (Optional) Configure the router to generate SNMP notifications related to environmental monitoring:

```
Router (config)# snmp-server enable traps envmon
```

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