



# Distributed Management Event and Expression MIB Persistence

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## History for the Distributed Management Event and Expression MIB Persistence Feature

Release	Modification
12.0(5)T	Expression MIB Support was introduced.
12.1(3)T, 12.0(12)S	Event MIB Support was introduced.
12.2(4)T	Expression MIB Persistence was introduced. Event MIB Persistence was introduced. Event MIB made compliant with RFC 2981.
12.2(4)T3	Support was added for the Cisco 7500 series.
12.2(28)SB	This feature was integrated into Cisco IOS Release 12.2(28)SB.

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## Feature Overview

The MIB Persistence features allow the SNMP data of a MIB to be persistent across reloads; that is, MIB information retains the same set object values each time a networking device reboots. MIB Persistence is enabled by using the **snmp mib persist** command, and the MIB data of all MIBs that have had persistence enabled using this command is then written to NVRAM storage by using the **write mib-data** command. Any modified MIB data must be written to NVRAM memory using the **write mib-data** command.

Both Event and Expression MIBs allow you to configure a value for an object and to set up object definitions. Both also allow rows of data to be modified while the row is in an active state.

Scalar objects are stored every time they are changed, and table entries are stored only if the row is in an active state. Event MIB has two scalar objects and nine tables to be persisted into NVRAM. The tables are mteTriggerTable, mteTriggerDeltaTable, mteTriggerExistenceTable, mteTriggerBooleanTable, mteTriggerThresholdTable, mteObjectsTable, mteEventTable, mteEventNotificationTable, and mteEventSetTable.

Expression MIB has two scalar objects and three tables to be stored in NVRAM. The scalars are expResourceDeltaMinimum and expResourceDeltaWildcardInstanceMaximum. The tables are expNameTable, expExpressionTable, and expObjectTable.

It may take several seconds for the MIB data to be written to NVRAM. The length of time taken depends on the amount of MIB data.

## Benefits

Event MIB Persistence and Expression MIB Persistence both allow MIB objects to be saved from reboot to reboot, which allows long-term monitoring of specific devices and interfaces. You can configure object values that are preserved across reboots.

## Restrictions

If the number of MIB objects to persist increases, NVRAM storage capacity may be strained. Occasionally, the time taken to write MIB data to NVRAM may be longer than expected.

## Related Features and Technologies

- Event MIB
- Expression MIB
- SNMP
- Network management

## Prerequisites

The configuration tasks described in the next section assume that you have configured SNMP on your networking device and that values for Event MIB and Expression MIB have been configured by you or your application.

## Configuration Tasks

See the following sections for configuration tasks for the Distributed Management Event and Expression MIB Persistence features. Each task in the list is identified as either required or optional.

- [Configuring Event MIB Persistence, page 3](#) (optional)
- [Configuring Expression MIB Persistence, page 4](#) (optional)

## Configuring Event MIB Persistence

Event MIB Persistence is disabled by default. To enable Event MIB Persistence, use the following commands:

	Command	Purpose
<b>Step 1</b>	Router(config)# <b>snmp mib persist event</b>	Enables MIB Persistence for Event MIB.
<b>Step 2</b>	Router# <b>write mib-data</b>	Saves Event MIB Persistence configuration data to NVRAM.
<b>Step 3</b>	Router# <b>copy running-config startup-config</b>	Copies the running configuration to the startup configuration.

To disable Event MIB Persistence after enabling it, use the following commands:

	Command	Purpose
<b>Step 1</b>	Router(config)# <b>no snmp mib persist event</b>	Disables MIB Persistence for Event MIB.
<b>Step 2</b>	Router# <b>copy running-config startup-config</b>	Copies the running configuration to the startup configuration.

## Configuring Expression MIB Persistence

Expression MIB Persistence is disabled by default. To enable Event MIB Persistence, use the following commands:

	Command	Purpose
Step 1	Router(config)# <b>snmp mib persist expression</b>	Enables MIB Persistence for Expression MIB.
Step 2	Router# <b>write mib-data</b>	Saves Expression MIB Persistence configuration data to NVRAM.
Step 3	Router# <b>copy running-config startup-config</b>	Copies the running configuration to the startup configuration.

To disable Expression MIB Persistence after enabling it, use the following commands:

	Command	Purpose
Step 1	Router(config)# <b>no snmp mib persist expression</b>	Disables MIB Persistence for Expression MIB.
Step 2	Router# <b>write mib-data</b>	Saves Expression MIB Persistence configuration data to NVRAM.
Step 3	Router# <b>copy running-config startup-config</b>	Copies the running configuration to the startup configuration.

## Verifying Event and Expression MIB Persistence

To verify that Event MIB Persistence and Expression MIB Persistence configurations have been set, enter the **more system:running-config** command.

## Configuration Examples

This section provides the following configuration examples:

- [Enabling Event MIB Persistence Example, page 4](#)
- [Enabling Expression MIB Persistence Example, page 5](#)

### Enabling Event MIB Persistence Example

To enable Event MIB Persistence, use the **snmp mib persist event** command in global configuration mode:

```
Router(config)# snmp mib persist event
Router# write mib-data
```

## Enabling Expression MIB Persistence Example

To enable Expression MIB Persistence, use the `snmp mib persist expression` command in global configuration mode:

```
Router(config)# snmp mib persist expression
Router# write mib-data
```

## Additional References

The following sections provide references related to Distributed Management Event and Expression MIB Persistence.

### Related Documents

Related Topic	Document Title
Configuring SNMP Support	<i>Cisco IOS Configuration Fundamentals Configuration Guide</i> , Release 12.4
SNMP Commands	<i>Cisco IOS Configuration Fundamentals Command Reference</i> , Release 12.4T

### Standards

Standard	Title
None	—

### MIBs

MIB	MIBs Link
<ul style="list-style-type: none"> <li>Expression MIB</li> <li>Event MIB (EVENT-MIB.my)</li> </ul>	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

### RFCs

RFC	Title
RFC 2981	<i>Event MIB</i>
RFC 2982	<i>Distributed Management Expression MIB</i>

## Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>

## Command Reference

This section documents modified commands only.

- [snmp mib persist](#)
- [write mib-data](#)

# snmp mib persist

To enable MIB persistence, use the **snmp mib persist** command in global configuration mode. To disable MIB persistence, use the **no** form of this command.

**snmp mib persist** [event | expression | circuit | cbqos]

**no snmp mib persist** [event | expression | circuit | cbqos]

## Syntax Description

<b>event</b>	(Optional) Enables Event MIB persistence.
<b>expression</b>	(Optional) Enables Expression MIB persistence.
<b>circuit</b>	(Optional) Enables Circuit MIB persistence.
<b>cbqos</b>	(Optional) Enables class-based (CB) quality of service (QoS) MIB persistence.

## Command Default

MIB persistence is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
12.2(2)T	This command was introduced.
12.2(4)T3	Support for event and expression MIBs was added.
12.4(4)T	The <b>cbqos</b> keyword was added.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.

## Usage Guidelines

After entering the **snmp mib persist** command, you must enter the **write mib-data** command to save MIB persistence configuration data to NVRAM.

The Circuit Interface MIB provides a MIB object (cciDescr) that can be used to identify individual circuit-based interfaces for Simple Network Management Protocol (SNMP) monitoring. Circuit interface identification persistence maintains the user-defined name of the circuit across reboots by retaining the value of the cciDescr object in the Circuit Interface MIB (CISCO-CIRCUIT-INTERFACE-MIB). A consistent value for specific circuits is useful for network management applications that use SNMP. Circuit interface identification persistence is enabled using the **snmp mib persist circuit** global configuration command. This command is disabled by default because this feature uses NVRAM memory.

To enable MIB persistence for all available MIB types, use the **snmp mib persist** command without keywords.

**Examples**

The following example shows how to enable Event MIB persistence:

```
Router(config)# snmp mib persist event
Router(config)# end
Router# write mib-data
```

**Related Commands**

Command	Description
<b>snmp ifindex persist</b>	Enables or disables SNMP interface index values that remain constant across reboots only on a specific interface.
<b>snmp-server ifindex persist</b>	Globally enables SNMP interface index values that remain constant across reboots.
<b>write mib-data</b>	Saves MIB persistence configuration data to NVRAM.

# write mib-data

To save MIB data to system memory (NVRAM) for MIB Data Persistence, use the **write mib-data** command in EXEC mode.

## write mib-data

**Syntax Description** This command has no arguments or keywords.

**Command Modes** EXEC

Command History	Release	Modification
	12.2(2)T	This command was introduced as part of the “Circuit Interface Identification Persistence for SNMP” feature.
	12.2(4)T	MIB Data Persistence for the Event and Expression MIBs was introduced as part of the “Distributed Management Event and Expression MIB Persistence” feature.
	12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.

**Usage Guidelines** The MIB Data Persistence feature allows the SNMP data of a MIB to be persistent across reloads; that is, the values of certain MIB objects are retained even if your networking device reboots.

To determine which MIBs support “MIB Persistence” in your release, use the **snmp mib persist ?** command in global configuration mode.

Any modified MIB data must be written to NVRAM memory using the **write mib-data** command. If the **write mib-data** command is not used, modified MIB data is not saved automatically, even if MIB Persistence is enabled. Executing the **write mib-data** command saves only the current MIB data; if the MIB object values are changed, you should reenter the **write mib-data** command to ensure that those values are persistent across reboots.

**Examples** In the following example, Event MIB Persistence and Circuit MIB persistence are enabled, and any currently set object values for those MIBs are saved to NVRAM:

```
Router# configure terminal
Router(config)# snmp mib persist circuit
Router(config)# snmp mib persist event
Router(config)# end
Router# write mib-data
```

Related Commands	Command	Description
	<b>snmp mib persist</b>	Enables MIB data persistence.

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