startup (test boolean) through write mib-data

startup (test boolean)

To specify whether an event can be triggered for the Boolean trigger test, use the **startup** command in event trigger boolean configuration mode. To disable the configured settings, use the **no** form of this command.

startup

no startup

Syntax Description   This command has no arguments or keywords.

Command Default   The startup event is enabled when the Boolean trigger test is enabled.

Command Modes   Event trigger boolean configuration (config-event-trigger-boolean)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines   The **startup** command triggers an event when the conditions specified for the Boolean trigger test are met.

Examples   The following example shows how to specify startup for the Boolean trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name EventA
Router(config-event-trigger)# test boolean
Router(config-event-trigger-boolean)# startup
Router(config-event-trigger-boolean)# end
```

Related Commands

Command	Description
test	Enables a trigger test.

startup (test existence)

To specify whether an event can be triggered for the existence trigger test, use the **startup** command in event trigger existence configuration mode. To disable the configured settings, use the **no** form of this command.

startup {**present**| **absent**}

no startup {**present**| **absent**}

Syntax Description

present	Triggers the present startup test when the existence trigger conditions are met.
absent	Triggers the absent startup test when the existence trigger conditions are met.

Command Default

By default, both present and absent startup tests are triggered.

Command Modes

Event trigger existence configuration (config-event-trigger-existence)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

The **startup** command triggers an event when the conditions specified for the existence trigger test are met.

Examples

The following example shows how to specify startup for the existence trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name EventA
Router(config-event-trigger)# test existence
Router(config-event-trigger-existence)# startup
Router(config-event-trigger-existence)# end
```

Related Commands

Command	Description
test	Enables a trigger test.

startup (test threshold)

To specify whether an event can be triggered for the threshold trigger test, use the **startup** command in event trigger threshold configuration mode. To disable the configured settings, use the **no** form of this command.

startup {**rising**| **falling**| **rise-or-falling**}

no startup

Syntax Description

rising	Specifies the rising threshold value to check against the set value during startup when the trigger type is threshold.
falling	Specifies the falling threshold value to check against the set value during startup when the trigger type is threshold.
rise-or-falling	Specifies the rising or falling threshold value to check against the set value during startup when the trigger type is threshold. This is the default value.

Command Default

The rising or falling threshold value is checked against the set value during startup when the trigger type is threshold.

Command Modes

Event trigger threshold configuration (config-event-trigger-threshold)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

The **startup** command starts an event when conditions for the threshold trigger test are met.

Examples

The following example shows how to specify startup for the threshold trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name EventA
Router(config-event-trigger)# test threshold
Router(config-event-trigger-threshold)# startup rising
Router(config-event-trigger-threshold)# end
```

Related Commands

Command	Description
test	Enables a trigger test.

test (event trigger)

To specify the type of test to perform during an event trigger, use the **test** command in event trigger configuration mode. To disable the trigger test configuration settings, use the **no** form of this command.

test {**existence**| **boolean**| **threshold**}

no test {**existence**| **boolean**| **threshold**}

Syntax Description

existence	Enables the existence trigger test.
boolean	Enables the Boolean trigger test. Boolean test is the default trigger test performed during event triggers.
threshold	Enables the threshold trigger test.

Command Default

The Boolean trigger test is enabled by default.

Command Modes

Event trigger configuration (config-event-trigger)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

The trigger table in the Event MIB has supplementary tables for additional objects that are configured based on the type of test performed for the trigger. For each trigger entry type such as existence, threshold, or Boolean, the corresponding tables (existence, threshold, and Boolean tables) are populated with the information required to perform the test. You can set event triggers based on existence, threshold, and Boolean trigger types.

The existence trigger tests are performed based on the following parameters:

- Absent

- Present

- Changed

The Boolean tests are comparison tests that are performed based on one of the following parameters:

- Unequal

- Equal

- Less

- Less Or Equal

- Greater

- Greater Or Equal

The threshold tests are performed based on the following parameters:

- Rising

- Falling

- Rising or Falling

Examples   The following example shows how to enable the existence trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name triggerA
Router(config-event-trigger)# test existence
Router(config-event-trigger-existence)#
```

The following example shows how to enable the Boolean trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name EventA
Router(config-event-trigger)# test boolean
Router(config-event-trigger-boolean)#
```
The following example shows how to enable the threshold trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name triggerA
Router(config-event-trigger)# test threshold
Router(config-event-trigger-threshold)#
```

Related Commands

Command	Description
comparison	Specifies the type of Boolean comparison to be performed.
event owner	Specifies the event owner for an event trigger according to the trigger type and status of the trigger.
object list	Configures a list of objects during an event.
startup	Specifies whether an event can be triggered for the Boolean, existence, or threshold trigger test.
value	Sets a value for the Boolean trigger test.

type (test existence)

To specify the type of existence trigger test to perform, use the **type** command in event trigger existence configuration mode. To disable the specified trigger test type, use the **no** form of this command.

type {**present**| **absent**| **changed**}

no type {**present**| **absent**| **changed**}

Syntax Description

present	Specifies whether the trigger conditions for the existence test are present.
absent	Specifies whether the trigger conditions for the existence test are absent.
changed	Specifies whether the trigger conditions for the existence test are changed.

Command Default

By default, both present and absent tests are performed.

Command Modes

Event trigger existence configuration (config-event-trigger-existence)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

The existence trigger tests are performed based on the following parameters:

- Absent
- Present
- Changed

When the test type is not specified, both present and absent tests are performed.

Examples

The following example shows how to specify the existence trigger test as present:

```
Router(config)#snmp mib event trigger owner owner1 name triggerA
Router(config-event-trigger)# test existence
Router(config-event-trigger-existence)# type present
Router(config-event-trigger-existence)# end
```

Related Commands

Command	Description
test	Enables a trigger test.

url (bulk statistics)

To specify the host to which bulk statistics files should be transferred, use the **url** command in Bulk Statistics Transfer configuration mode. To remove a previously configured destination host, use the **no** form of this command.

url {**primary**| **secondary**} *url*

no url {**primary**| **secondary**}

Syntax Description

primary	Specifies the URL to be used first for bulk statistics transfer attempts.
secondary	Specifies the URL to be used for bulk statistics transfer attempts if the transfer to the primary URL is not successful.
url	Destination URL address for the bulk statistics file transfer. Use FTP, RCP, or TFTP. The Cisco IOS File System (IFS) syntax for these URLs is as follows: **ftp:** [[[//*username* [:*password*]@]*location*]/*directory*]/*filename* **rcp:** [[[//*username*@]*location*]/*directory*]/*filename* **tftp:** [[//*location*]/*directory*]/*filename* The *location* argument is typically an IP address.

Command Default   No host is specified.

Command Modes   Bulk Statistics Transfer configuration (config-bulk-tr)

Command History

Release	Modification
12.0(24)S	This command was introduced.
12.3(2)T	This command was integrated into Cisco IOS Release 12.3(2)T.
12.2(25)S	This command was integrated into Cisco IOS Release 12.2(25)S.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Release	Modification
12.2(33)SB	This command was integrated into Cisco IOS Release 12.2(33)SB.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS Release XE 2.1.

Usage Guidelines   For bulk statistics transfer retry attempts, a single retry consists of an attempt to send first to the primary URL, and then to the secondary URL.

Examples   In the following example, an FTP server is used as the primary destination for the bulk statistics file. If a transfer to that address fails, an attempt is made to send the file to the TFTP server at 192.168.10.5. No retry command is specified, which means that only one attempt to each destination will be made.

```
Router(config)# snmp mib bulkstat transfer ifMibTesting

Router(config-bulk-tr)# schema carMibTesting1

Router(config-bulk-tr)# schema carMibTesting2

Router(config-bulk-tr)# format bulkBinary

Router(config-bulk-tr)# transfer-interval 60

Router(config-bulk-tr)# buffer-size 10000

Router(config-bulk-tr)# url primary ftp://user2:pswd@192.168.10.5/functionality/

Router(config-bulk-tr)# url secondary tftp://user2@192.168.10.8/tftpboot/

Router(config-bulk-tr)# buffer-size 2500000

Router(config-bulk-tr)# enable

Router(config-bulk-tr)# exit
```

Related Commands

Command	Description
retry (bulk statistics)	Configures the number of retries that should be attempted for sending bulk statistics files.
snmp mib bulkstat transfer	Names a bulk statistics transfer configuration and enters Bulk Statistics Transfer configuration mode.

value (test boolean)

To set a value for the Boolean trigger test, use the **value** command in event trigger boolean configuration mode. To disable the configured settings, use the **no** form of this command.

value *integer-value*

no value

Syntax Description

integer-value	Numerical value to set for the Boolean test. The default is 0.

Command Default

The Boolean trigger test value is set to 0.

Command Modes

Event trigger boolean configuration (config-event-trigger-boolean)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines

The **value** command specifies the value to be set for the Boolean trigger test.

Examples

The following example shows how to set a value for the Boolean trigger test:

```
Router(config)# snmp mib event trigger owner owner1 name triggerA
Router(config-event-trigger)# test boolean
Router(config-event-trigger-boolean)# value 10
Router(config-event-trigger-boolean)# end
```

Related Commands

Command	Description
test	Enables a trigger test.

value type

To specify the type of bulkstat expression to use during object sampling, use the **value type** command in Bulkstat expression configuration mode. To disable the specified value type, use the **no** form of this command.

value type [**counter32**| **unsigned32**| **timeticks**| **integer32**| **ipaddress**| **octetstring**| **objectid**| **counter64**]

no value type

Syntax Description

counter32	(Optional) Specifies a counter32 value. Counter32 specifies a value that represents a count. The value ranges from 0 to 4,29,49,67,295.
unsigned32	(Optional) Specifies an unsigned integer value. Unsigned32 specifies a value that includes only non-negative integers. The value ranges from 0 to 4294967295.
timeticks	(Optional) Specifies a value based on timeticks. Timeticks represents a non-negative integer value that specifies the elapsed time between two events, in units of hundredth of a second. When objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1), the description of the object type identifies this reference period.
integer32	(Optional) Specifies an integer32 value. The Integer32 represents 32-bit signed integer values for the Simple Network Management Protocol (SNMP). The value range includes both negative and positive numbers.
ipaddress	(Optional) Specifies a value based on the IP address. The IP address is a string of four octets. The IP address value type is generally an IPv4 address. This value is encoded as four bytes in the network byte order.
octetstring	(Optional) Specifies a value based on octetstring. The octetstring specifies octets of binary or textual information. The octet string length ranges from 0 to 65535 octets.
objectid	(Optional) Specifies a value based on the object identifier of an object. Each object type in a MIB is identified by an object identifier value assigned by the administrator. The object identifier identifies the value type that has an assigned object identifier value.
counter64	(Optional) Specifies a counter64 value that represents a count. However, the counter64 value ranges from 0 to 18446744073709551615. This value type is used when a 32-bit counter rollover occurs in less than an hour.

Command Default   By default, the value type is not configured.

Command Modes   expression configuration (config-expression)

Bulkstat data set expression configuration (config-bs-ds-expr)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(33)SRE	This command was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.
15.3(1)S	This command was integrated into Cisco IOS Release 15.3(1)S.
Cisco IOS Release XE 3.8S	This command was integrated into Cisco IOS Release XE 3.8S.

Usage Guidelines   The **value type** command specifies a value for expression evaluation.

Examples   The following example shows how to specify the counter32 value type:

```
Device> enable
Device# configure terminal
Device(config)# snmp mib expression owner owner1 name ExpressionA
Device(config-expression)# value type counter32
```
The following example shows how to specify the counter32 value type for Bulkstat expression data set:

```
Device> enable
Device# configure terminal
Device(config)# bulkstat data interface-util type expression
Device(config-bs-ds-expr)# expression 100*$1+$2
Device(config-bs-ds-expr)# value type counter32
```

Related Commands

Command	Description
snmp mib expression owner	Specifies the owner for an expression.
bulkstat data	Configures Bulkstat data set for expression type.

wildcard (expression)

To specify whether an object used for evaluating an expression is to be wildcarded during an event configuration, use the **wildcard** command in expression configuration mode. To remove the wildcard object identifier, use the **no** form of this command.

wildcard

no wildcard

Syntax Description This command has no arguments or keywords.

Command Default This command is enabled by default.

Command Modes Expression configuration (config-expression)

Command History

Release	Modification
12.4(20)T	This command was introduced.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.

Usage Guidelines The **wildcard** command allows you to apply a single expression to multiple instances of the same MIB object. When you specify this choice and provide a partial object identifier, the application obtains the object values and discovers the instances of the object. By default, the objects are identified based on instances and are not wildcarded.

Examples The following example shows how to specify the wildcard object identifier by using the **wildcard** command:

```
Router(config)# snmp mib expression owner owner1 name expression1
Router(config-expression)#object 2
Router(config-expression-object)# wildcard
Router(config-expression-object)# end
```

Related Commands

Command	Description
object id	Specifies the object identifier of an object associated with an event.
snmp mib expression owner	Specifies the owner of an expression.

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   Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced in a release earlier than Cisco IOS Release 15.0(1)M.
12.2(33)SRC	This command was integrated into a release earlier than Cisco IOS Release 12.2(33)SRC.
12.2(33)SXI	This command was integrated into a release earlier than Cisco IOS Release 12.2(33)SXI.
Cisco IOS XE Release 2.1	This command was implemented on the Cisco ASR 1000 Series Aggregation Services Routers.

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   The following example shows the enabling of event MIB persistence, circuit MIB persistence, and saving the changes to set object values for these MIBs 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
snmp mib persist	Enables MIB data persistence.