SNMP Agent Plug-In

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SNMP Agent Plug-In

Help version 1.022

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Overview

The SNMP Agent Plug-In acts as an internal client to the server. It supports SNMP versions 1 and 2C over the UDP protocol. For more information on the supported SNMP version command PDUs, refer to the table below.

SNMP Version	Supported Command PDU
1	Get Set Get-Next Trap
2C	Get Set Get-Next Get-Bulk Notification

Agent Setup

For more information on a specific aspect of agent setup, select a link from the list below.

General
Network Interfaces
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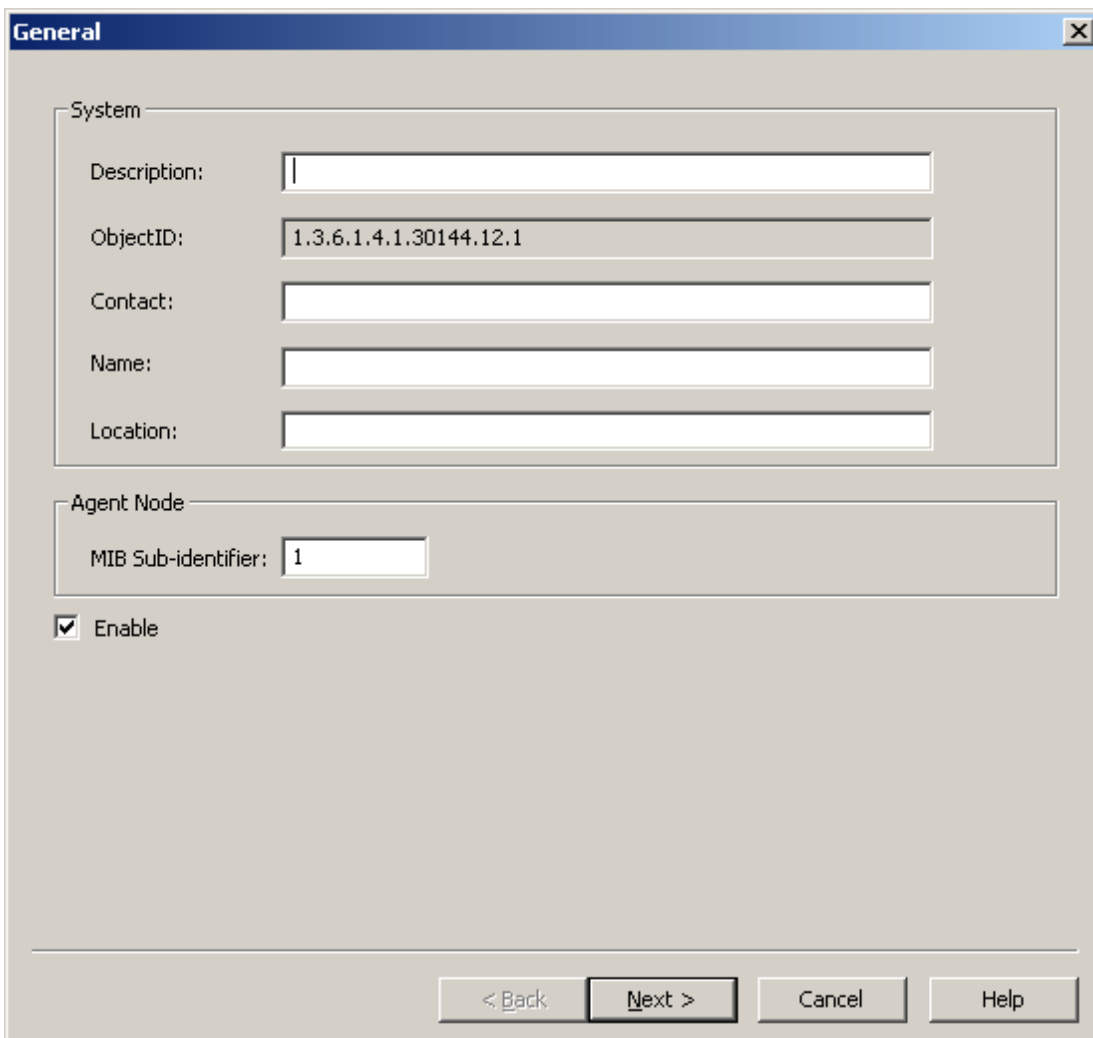
See Also:
System Objects
Creating a New Item Mapping Group
Creating a New Trap Group

General

Descriptions of the parameters are as follows:

- **Description:** This parameter specifies the textual description of the agent entity. It is optional, and left blank by default.

- **ObjectID:** This parameter displays the agent node's fully-qualified object identifier.
- **Contact:** This parameter specifies the identification and contact information of the user maintaining the agent. It is optional, and left blank by default.
- **Name:** This parameter specifies the administratively-assigned name for the agent node. It is optional, and left blank by default
- **Location:** This parameter specifies the physical location of the node running the agent. It is optional, and left blank by default.
- **MIB Sub-Identifier:** This parameter specifies the MIB sub-identifier. The valid range is 1 to 4294967295. The default setting is 1.

  Note: Different sub-identifiers should be chosen between multiple instances of the SNMP Agent Plug-In that exist on the same network. This prevents the collision of data with the same OID but different meanings.
- **Enable:** When selected, all objects underneath the SNMP Agent are enabled and visible to SNMP managers. The default setting is checked.

Network Interfaces

The SNMP Agent Plug-In allows users to select several network adapters, and several ports for each adapter.
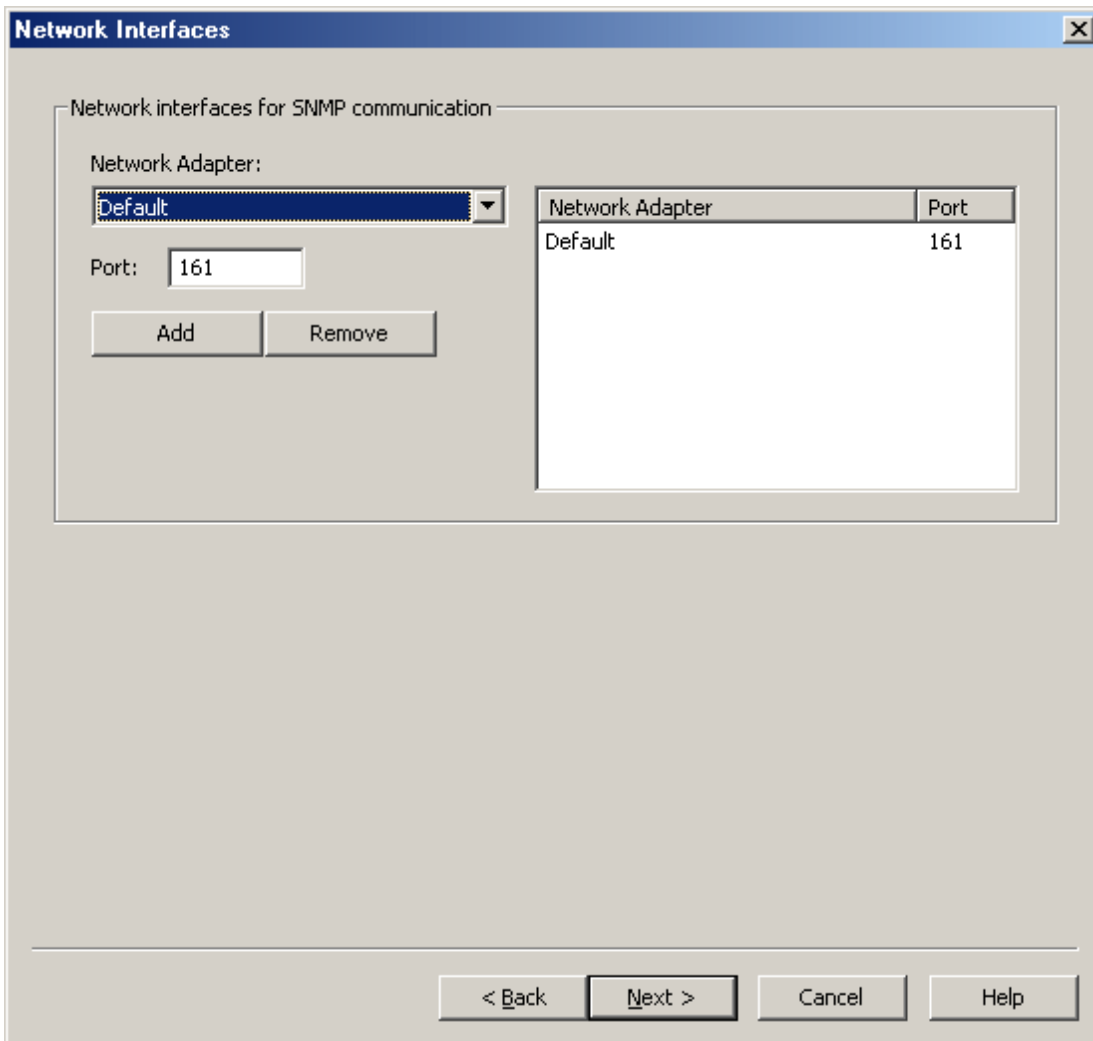
Descriptions of the parameters are as follows:

- **Network Adapter:** This parameter specifies the network adapter. On project start up, the Network Adapter list box is filtered to include the network adapters that are available on the system. The Default network adapter is always available. The default setting is Default.

  Note: When Default is selected, the agent binds to the first network adapter in the list.
- **Port:** This parameter specifies the port number. The default setting is 161.
- **Add:** When clicked, this button inserts the selected network interface to the Network Adapter list box.
- **Remove:** When clicked, this button deletes the network interface selected in the Network Adapter list box.

Communication

Description of the parameters are as follows:

- **SNMP Version:** This parameter specifies the SNMP version. Options include V1, V2c, and V1, V2c. The default setting is V1, V2c.
- **Protocol:** This parameter specifies the protocol. The default setting is UDP.

Community Access

The Community list box lists the communities to which the agent belongs. The agent neither responds to requests containing community strings that are not listed, nor responds to SNMP Set requests containing community strings with Read Only access rights. Descriptions of the parameters are as follows:

- **Community Name:** This parameter specifies the community name. It is left blank by default.
- **Community Rights:** This parameter specifies the community access rights. Options include Read Only and Read/Write. The default setting is Read Only.
- **Add:** When clicked, this button inserts the specified community name and rights to the Community list box.
- **Remove:** When clicked, this button deletes the specified community name and rights from the Community list box.

IP/Host Access

The IP Address list box lists the IP addresses from which SNMP messages are accepted. The agent does not respond to requests from hosts whose IP addresses are not listed. If a request is received from an accepted IP address, the agent may still ignore the request if the community string is not accepted. Descriptions of the parameters are as follows:

- **Accept packets from all hosts:** When checked, SNMP packets are accepted from all hosts. When unchecked, SNMP packets are only accepted from hosts that are entered and displayed in the list box. The default setting is unchecked.
- **Host IP Address:** This parameter specifies the IP address from which SNMP packets are accepted.
- **Add:** When clicked, this button inserts the specified IP to the IP Address list box.
- **Remove:** When clicked, this button deletes the specified IP from the IP Address list box.

Agent Actions

Once an SNMP Agent has been configured, users may access its context menu for further actions.
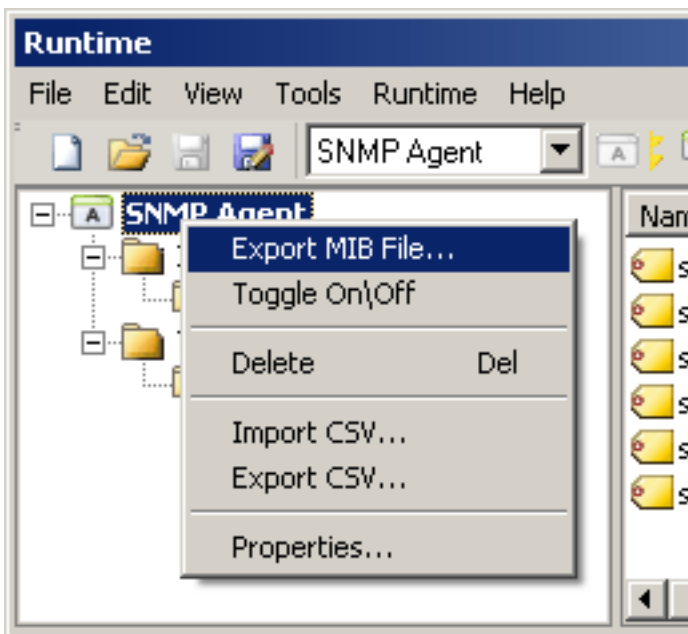
Descriptions of the options are as follows:

- **Export MIB File:** When selected, this option invokes the MIB File Export dialog.
- **Toggle On\Off:** When selected, this option changes the agent and all of its objects to the value opposite its current state.
- **Delete:** When selected, this option deletes the agent and all of its objects.
- **Import CSV:** When selected, this option invokes the Import from CSV dialog.
- **Export CSV:** When selected, this option invokes the Export to CSV dialog.
- **Properties:** When selected, this option invokes the Agent Properties dialog.

See Also: CSV Import/Export

MIB File Export
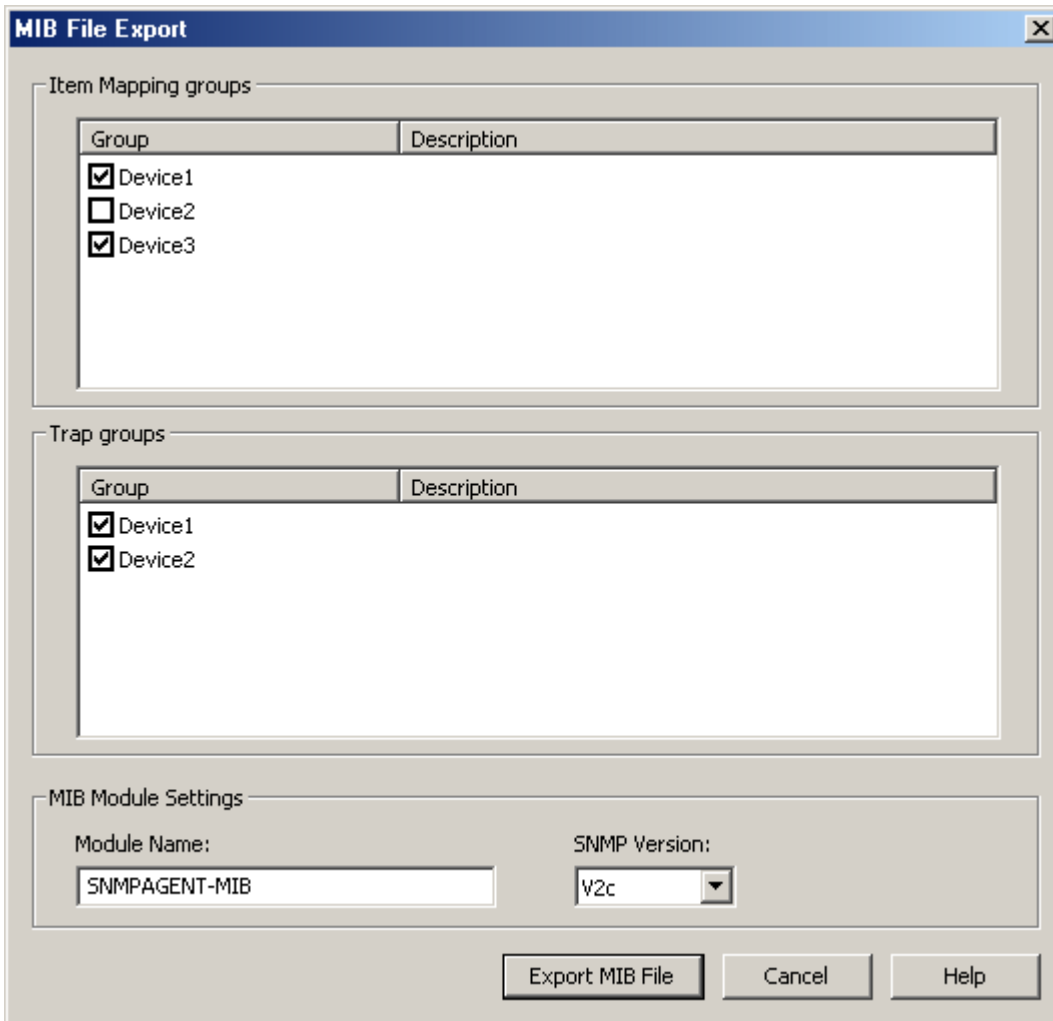
Descriptions of the parameters are as follows:

- **Item Mapping Groups:** This field's group and description are specified by the MIB Export file. SNMP object definitions are added to the exported MIB file for each item mapping in the selected groups.
- **Trap Groups:** This field's group and description are specified by the MIB Export file. SNMP trap definitions are added to the exported MIB file for each trap in the selected groups.
- **Module Name:** This parameter specifies the module name of the exported MIB file. The default setting is SNMPAGENT-MIB.
- **SNMP Version:** This parameter specifies the version of the exported MIB file. Options include V1 and V2c. The default setting is V2c.

  Note: To ensure successful communication, the MIB file used by a network manager should be the same version as the SNMP responses it expects to receive.

See Also: Creating a New Item Mapping Group and **Creating a New Trap Group**.

System Objects

After an SNMP Agent has been configured, several system objects become available.

Description of the parameters are as follows:

- **Name:** This parameter specifies the name of the system object.
- **Description:** This parameter provides a description of the system object.
- **SNMP Data Type:** This parameter specifies the SNMP data type. Options include Integer32, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque, IpAddress, and Object Identifier.
- **Access:** This parameter specifies the object's access. All system objects have Read Only access.
- **MIB Sub-Identifier:** This parameter specifies the MIB sub-identifier of the system object.
- **OID:** This parameter specifies the Object Identifier.
- **Enable:** When selected, this checkbox makes system objects (which are those displayed in the Detail View when the SNMP Agent is selected) visible to SNMP managers for polling. The default setting is checked.

System Objects Description

The SNMP Agent Plug-In supports the following system objects. Each object can be accessed at both the local address (where the agent's top-level sub-identifier is represented by <agent>), and at an address defined in RFC 1213.

System Object	Local OID	RFC1213 OID
sysDescr	1.3.6.1.4.1.30144.12.<agent>.1.1.0	1.3.6.1.2.1.1.1.0
sysObjectID	1.3.6.1.4.1.30144.12.<agent>.1.2.0	1.3.6.1.2.1.1.2.0
sysUpTime	1.3.6.1.4.1.30144.12.<agent>.1.3.0	1.3.6.1.2.1.1.3.0
sysContact	1.3.6.1.4.1.30144.12.<agent>.1.4.0	1.3.6.1.2.1.1.4.0
sysName	1.3.6.1.4.1.30144.12.<agent>.1.5.0	1.3.6.1.2.1.1.5.0
sysLocation	1.3.6.1.4.1.30144.12.<agent>.1.6.0	1.3.6.1.2.1.1.6.0
lastTrapDescr	1.3.6.1.4.1.30144.12.<agent>.1.7.0	N/A
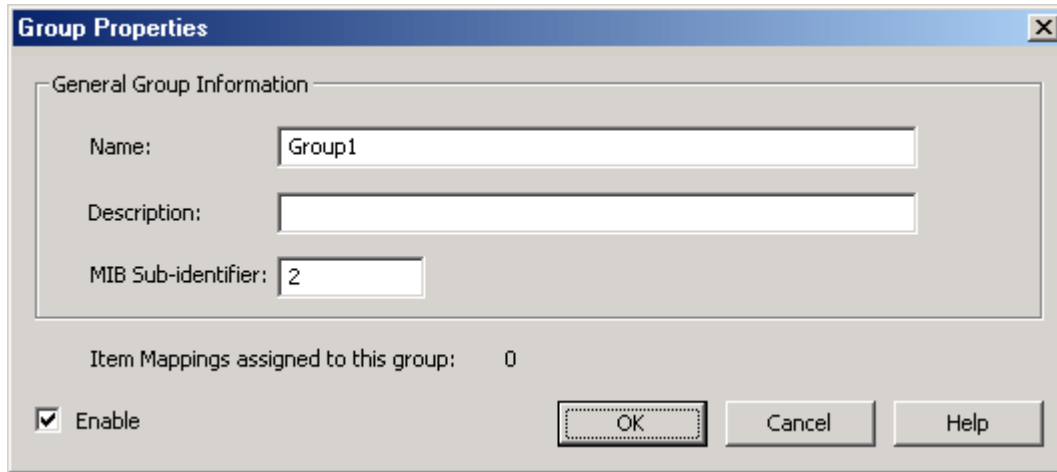
Descriptions of the system objects are as follows:

- **sysDescr:** A textual description of the agent entity.
- **sysObjectID:** The agent node's fully-qualified object identifier.
- **sysUpTime:** The time (in hundredths of a second) since the network management portion of the system was last re-initialized.
- **sysContact:** The identification and contact information of the user maintaining the agent.
- **sysName:** An administratively-assigned name for the agent node.
- **sysLocation:** The physical location of the node running the agent.
- **lastTrapDescr:** The description of the last trap sent by the agent.

Creating a New Item Mapping Group

For information on adding a new item mapping group, follow the instructions below.

1. To start, right-click on **Item Mappings** and then select **New Group**.

2. Next, specify the following parameters:

    -   **Name:** This parameter specifies the name of the new item mapping group. This field is used as an identifier in exported MIB files, and is therefore limited to alphanumeric characters.

    -   **Description:** This parameter may be used to provide a description of the group. This field is used in exported MIB files, and is therefore limited to the ANSI character set. It is optional, and left blank by default.

    -   **MIB Sub-identifier:** This parameter specifies the MIB sub-identifier. The valid range is 1 to 4294967295. The default setting is 1.

    -   **Item Mappings assigned to this group:** This field specifies how many item mappings are assigned to the group.

    -   **Enable:** When selected, all item mappings in the group are enabled and visible to the SNMP manager. The default setting is checked.

3. Once all the parameters have been specified, click **OK**.

Creating New Item Mapping

For information on adding new item mapping, follow the instructions below.

1. To start, right-click on the new group and then select **New Item Mapping**.

2. Next, specify the following parameters:

- **Item:** This field specifies the item. For more information on how to populate this field by using the Tag Browser, refer to **Tag Browser**.

  Note: The SNMP object's identifier in an exported MIB file is derived from the underlying server item's fully-qualified path (excluding all non-alphanumeric characters).

- **Update Rate:** This parameter specifies the rate at which the item mapping's cached value for the server item is updated. The valid range is 10 milliseconds to 49 days. The default setting is 10 minutes.

- **Name:** This parameter specifies the friendly name of the item mapping. It is used to generate the descriptor that represents the SNMP object in a MIB file.

- **Descriptor:** This parameter specifies the label used to represent the SNMP object in a MIB file.

- **SNMP Data Type:** This parameter specifies the SNMP data type. Options include Integer32, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque, IpAddress, and Object Identifier. The default setting is based on the server item's data type.

  Note: This parameter is restricted to the SNMP data types to which the server item's data

may convert. If the agent cannot convert data to the SNMP data type, it returns a null value. For more information on data type conversion, refer to **Data Types Description**.

- **Access:** This parameter specifies the item's access. Options include Read Only and Read/Write. The default setting is based on the server item's access.

- **Description:** This parameter may be used to provide a description of the item mapping. If the item has been selected through the Tag Browser, the field populates automatically with the server description. This field is used as a description in exported MIB files and is therefore limited to the ANSI character set.

- **MIB Sub-identifier:** This parameter specifies the MIB sub-identifier. The valid range is 1 to 4294967295. The default setting is 1.

- **OID:** This parameter specifies the Object Identifier.

- **Enable:** When selected, an item mapping receives periodic updates from the server item that it references and is visible to SNMP managers. When unchecked, the reference to the server item is removed (possibly causing the active tag count to decrease) and the item mapping is not visible to SNMP managers. The default setting is checked.

3. Once all the parameters have been specified, click **OK**.

Tag Browser

This dialog is used to select one or more server items. To do so, expand the list of devices and server plug-ins, and then select the tags as desired. Once all tags have been selected, click **Apply**.
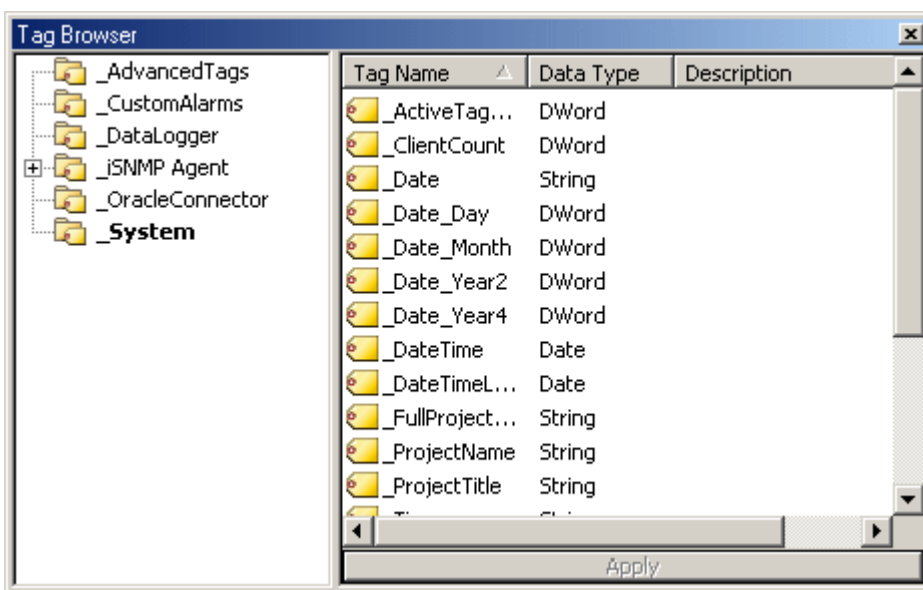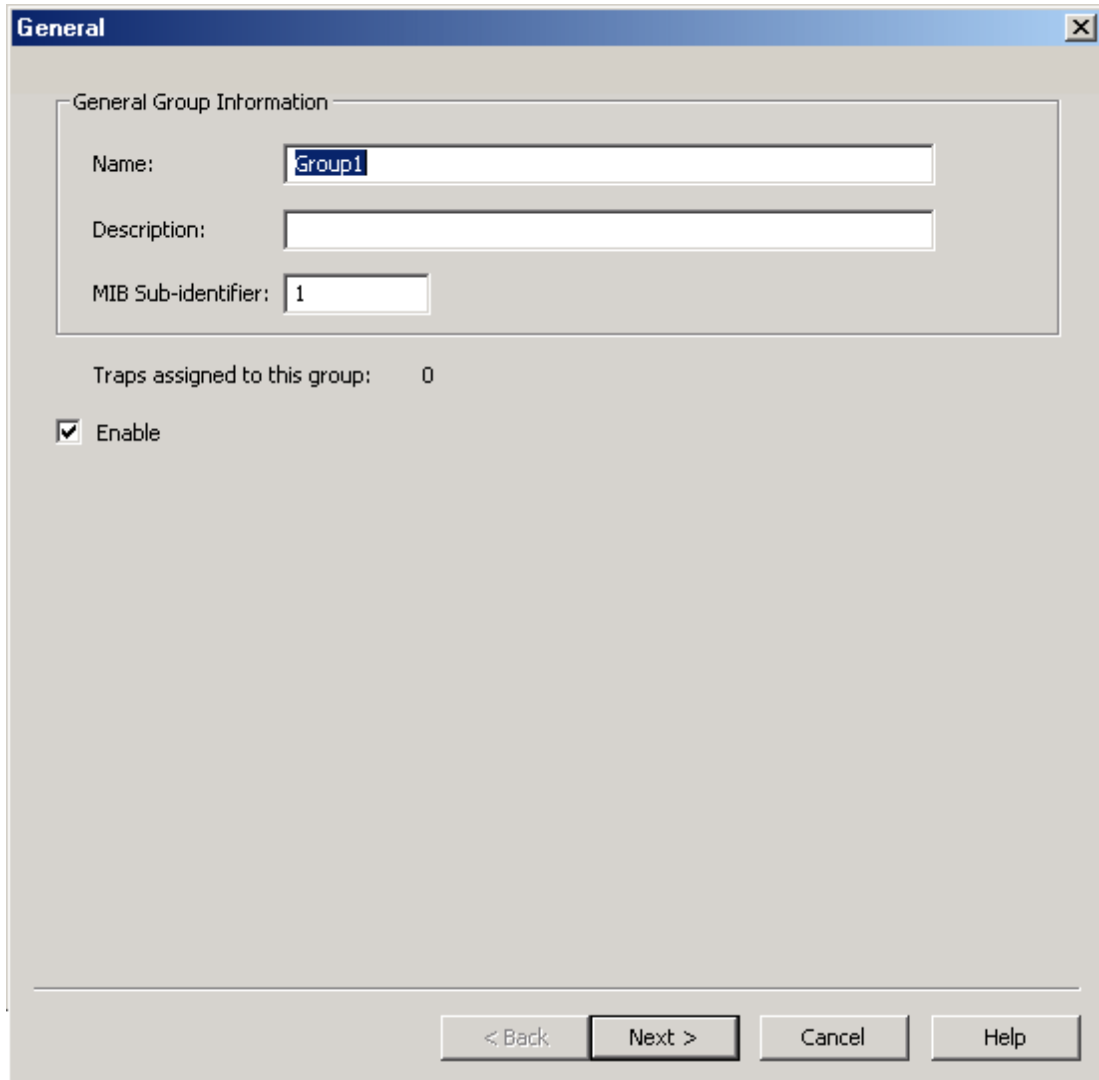
Note: To add multiple item mappings at once, right-click on the group and then select **Add Multiple Item Mappings**. Then, press the **Ctrl** key while selecting all desired tag names. Once finished, click **Apply**.

Creating a New Trap Group

For information on creating a new trap group, follow the instructions below.

1. To start, right-click on **Traps** and then select **New Group**.

2. Next, specify the following parameters:

- **Name:** This parameter specifies the name of the new trap group. This field is used as an identifier in exported MIB files, and is therefore limited to alphanumeric characters.

- **Description:** This parameter may be used to provide a description of the trap. This field is used in exported MIB files, and is therefore limited to the ANSI character set. It is optional, and left blank by default.

- **MIB Sub-Identifier:** This parameter specifies the MIB sub-identifier. The valid range is 1 to 4294967295. The default setting is 1.

- **Traps assigned to this group:** This field specifies how many traps are assigned to the group.

- **Enable:** When selected, all traps in the group are enabled by default. The default setting is checked.

3. Once all parameters have been specified, click **Next**.

4. Next, specify the following parameters:

- **Trap Destination IP:** This parameter specifies the trap destination's IP address.

- **Port:** This parameter specifies the trap destination's port number. The default setting is 162.

- **Community:** This parameter specifies the community of trap messages sent to the specified trap destination. The default setting is public.

- **SNMP Version:** This parameter specifies the version of trap messages sent to the specified trap destination. Options include V1 and V2c. The default setting is V1.

- **Network Adapter:** This parameter specifies the network adapter on which traps are sent. On project start up, the list box is filtered to only include entries with network adapters available on the system. The Default network adapter is always available. The default setting is Default.

- **Add:** When clicked, this button inserts the specified trap destination, message, and local information to the list box.

- **Remove:** When clicked, this button deletes the specified trap destination, message, and local information from the list box.

5. Once all the parameters have been specified, click **Finish**.

Creating a New Trap

For information on creating a new trap, follow the instructions below.

1. To start, right-click on the trap group and then select **New Trap**.

2. Next, specify the following parameters:

- **Name:** This parameter specifies the friendly name of the new trap. It is used to generate the descriptor that represents the SNMP trap object in a MIB file.

- **Descriptor:** This parameter specifies the label used to represent the SNMP trap object in a MIB file.

- **Description:** This parameter may be used to provide a description of the trap. This field is used as a description in exported MIB files, and is therefore limited to the ANSI character set. It is optional, and left blank by default.

  Note: When the trap is sent, this description is applied to the lastTrapDescr system object.

This system object is included as a variable binding in the trap message. For more information, refer to **System Objects Description**.

- **V1 Enterprise OID:** This parameter specifies the V1 Enterprise OID.

- **MIB Sub-identifier / Specific Trap Type:** This parameter specifies the MIB sub-identifier or the specific trap type. The valid range is 1 to 4294967295. It defaults to the lowest available sub-identifier.

- **V2c OID:** This parameter specifies the V2c OID.

- **Enable:** When selected, the trap receives periodic updates from the server item it is monitoring. Trap messages are also sent to all of the trap group's trap recipients if the trap's trigger condition is met. The default setting is checked.

3. Once all parameters have been specified, click **Next**.

4. Next, specify the following parameters:

- **Item:** This parameter specifies the item. For more information on how to populate this field by using the Tag Browser, refer to **Tag Browser**.

- **Data Type:** This parameter specifies the item's data type.

- **Update Rate (ms):** This parameter specifies the rate at which the trap's cached value for the source server item is updated. The valid range is 10 milliseconds to 49 days. The default setting is 1000 milliseconds.

- **Deadband Type:** This parameter specifies the trap's deadband type. Options include None, Absolute and Percent. The default setting is None. Descriptions are as follows:

  - **None:** No deadband is used.

  - **Absolute:** If the difference between two consecutive tag data updates is more than the amount specified in the Value field, the update is valid and can produce events. Otherwise, the update is ignored.

  - **Percent:** This option is similar to Absolute except that the Value field is a percentage of the specified range. For example, if the Value is 10 (10%) and the expected range is 0 to 10, the Absolute deadband would be ±1.

- **Deadband:** This parameter specifies the deadband value. Any positive number is supported. If the Deadband Type is set to None, this parameter is disabled. The default value is 0.

- **Range:** This parameter specifies the range of the deadband. It is only enabled when Percent is the chosen deadband type. The default value is 0.

5. Once all parameters have been identified, click **Next**.

6. Next, specify the following parameters:

- **Threshold Type:** This field specifies the threshold type. Options include Value and Item. The default setting is Value.

  Note: When Item is the selected threshold, additional settings are available. For more information, refer to Item Threshold Deadband.

  - **Threshold:** This parameter specifies the threshold. The default setting is 0.

  - **Comparison:** This parameter specifies the comparison for the trigger. The default setting is
    Source > Threshold.

7. Once all parameters have been specified, click **Finish**.

Item Threshold Deadband

When Item is selected as the threshold, the Triggers dialog changes as shown below.

Description of the additional parameters are as follows:

  - **Threshold:** This parameter specifies the threshold. The default setting is 0. To browse for an item,
    click Browse. For more information on how to populate this field by using the Tag Browser, refer to
    Tag Browser.
  - **Update Rate:** This parameter specifies the rate at which the trap's cached value for the trigger
    server item is updated. The valid range is 10 milliseconds to 49 days. The default setting is 1000 mil-
    liseconds.
  - **Deadband Type:** This parameter specifies the deadband. Options include None, Absolute, and Per-
    cent. The default setting is None.
  - **Deadband:** This parameter specifies the deadband value. Any positive number is supported. If the
    Deadband Type is set to None, this parameter is disabled. The default value is 0.
  - **Range:** This parameter specifies the range of the deadband. It is only enabled when Percent is the
    chosen deadband type. The default value is 0.

CSV Import/Export

The SNMP Agent Plug-In supports the import and export of data in a Comma Separated Variable (CSV) file. CSV import and export supports the efficient configuration of large numbers of item mapping and trap objects. CSV functions are only available at the Agent object level. Furthermore, parameters that are not defined in the CSV file is assigned appropriate default values. For more information on a specific aspect of CSV Import/Export, select a link from the list below.

Creating a Template
Exporting SNMP Agent Objects
Importing a CSV File into the Server
Using Other Characters as the Delimiter

Note: For information on specifying which character to use as the variable (comma or semicolon), refer to "Options - General" in the server help file.

Creating a Template

The easiest way to create an import CSV file is to create a template. For more information, refer to the instructions below.

1. To start, configure an SNMP Agent object.

2. Next, right-click on **Item Mappings** and select **New Group**. Then, define an item mapping within that group.

3. Next, right-click on **Traps** and select **New Group**. Then, define a trap within that group.

4. Export the agent as a CSV file.

5. Use this template in a spreadsheet application that supports CSV files, and then modify the file as desired.

Note: Microsoft Excel is an excellent tool for editing large groups of tags outside the server. Once a template CSV file has been exported, it can be loaded directly into Excel for editing.

Exporting SNMP Agent Objects

Exporting an SNMP Agent generates a .CSV text file that contains one section for item mappings and one section for traps. Each section contains a heading record followed by a record for each item defined under the agent. Column names must be exactly the same as those listed; however, columns may be in any order.

Item Mapping Fields
Required columns are listed in **bold**.

Column Name	Value
Record Type	"Item Mapping".
Server Item	The server item that is monitored and mapped to an SNMP object.
Name	The item mapping's name, including its parent group (such as "Group1.Object1"). If left blank, the name is created based on the Server Item and the item mapping is added to the "CSVImport" group.
Enabled	1 to enable, and 0 to disable.
Description	The description of the item mapping. If left blank on import, the field defaults to the description of the selected server item.

Column Name	Value
Sub-Identifier	The unique numeric identifier of the item mapping. If the field is left blank on import or the value conflicts with an existing item mapping's sub-identifier, the value is set to the lowest available value. The range is 1 to 4294967295.
Data Type	The SNMP data type of the item mapping. Valid options depend on the selected server item.*
Access	The access level of the item mapping. Options include "READ ONLY" and "READ WRITE". If left blank on import, the default value depends on the selected server item.
Rate	The rate at which the item mapping's cached value for the server item updates.
Rate Units	The units associated with the update rate. Options include "milliseconds," "seconds," "minutes," "hours," and "days". The valid update rate range is 10 milliseconds to 49 days.

*For more information, refer to **Data Types Description**.

See Also: Creating New Item Mapping

Trap Fields
Required columns are listed in **bold**.

Column Name	Values
Record Type	"Trap".
Name	The trap's name, including its parent group (such as "Group1.Trap1").
Enabled	1 to enable, and 0 to disable.
Description	The description of the trap.
Sub-Identifier	The unique numeric identifier of the trap. If the field is left blank on import or the value conflicts with an existing trap's sub-identifier, the value is set to the lowest available value. The range is 1 to 4294967295.
Source	The tag monitored as the source of the trap.
Rate	The rate at which the trap's cached value for the source updates.
Rate Units	The units associated with the update rate. Options include "milliseconds," "seconds," "minutes," "hours," and "days". The valid update rate range is 10 milliseconds to 49 days.
Deadband Type	The type of deadband used to filter updates to the source tag. Options include "None," "Absolute," and "Percent".
Deadband	The deadband value. The value must be a positive, real number.
Range Low	The lower range of a percent deadband. The value may be any real number, but must be less than the high range value.
Range High	The higher range of a percent deadband. The value may be any real number, but must be greater than the low range value.
Comparison	The comparison between the source and the threshold. Options include "Source > Threshold", "Source >= Threshold", "Source < Threshold", "Source <= Threshold", "Source == Threshold", and "Source != Threshold".
Threshold is Value	1 if the threshold field contains a static value, and 0 if it contains a tag. The default value is 1.

Column Name	Values
Threshold	The static value or tag to which the trap source tag is compared.
Trigger Rate	The rate at which the trap's tag threshold is updated. The field need not be present if the threshold is a static value.
Trigger Rate Units	The units associated with the trigger update rate. Options include "milliseconds," "seconds," "minutes," "hours," and "days". The valid update rate range is 10 milliseconds to 49 days.
Trigger Deadband Type	The type of deadband used to filter updates to the threshold tag. Options include "None," "Absolute," and "Percent". The field need not be present if the threshold is a static value.
Trigger Deadband	The trigger's deadband value. The value must be a positive, real number.
Trigger Range Low	The lower range of a percent deadband. The value may be any real number, but must be less than the high range value.
Trigger Range High	The higher range of a percent deadband. The value may be any real number, but must be greater than the low range value.

See Also: Creating a New Trap

Importing a CSV File into the Server

Once the CSV file has been edited, it can be re-imported into the server by clicking **File** | **Import CSV**.

Note: This option is only available when an area is selected.

Using Other Characters as the Delimiter

When utilizing a CSV file that does not use a comma or semi-colon delimiter, do one of the following:

1. Save the project in XML. Then, perform mass configuration on the XML file instead of using CSV.

2. Perform a search-and-replace on the delimiter in the CSV file and then replace the delimiter with a comma or semicolon. The delimiter being used by the server (either comma or semi-colon) must be set to the replacement character.

Note: For more information, refer to "Options - General" in the server help file.

Data Types Description

Supported SNMP Data Types

Server items can be represented by item mappings with SNMP data types. The default converted data type is shown in **bold**.

Note: If the SNMP Agent Plug-In cannot convert data to the SNMP data type, it returns a null value.

Server Data Type	SNMP Data Type
Bool	Integer32, Unsigned32, **Gauge32**, Counter32, Counter64, TimeTicks, Octet String, Opaque
Char	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque
Byte	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque
Short	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque
Word	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque
Long	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque, IpAddress
DWord	Integer32, Unsigned32, **Gauge32**, Counter32, Counter64, TimeTicks, Octet String, Opaque, IpAddress
Float	**Integer32**, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, Octet String, Opaque
Double	Integer32, Unsigned32, Gauge32, Counter32, **Counter64**, TimeTicks, Octet String, Opaque
String	Integer32, Unsigned32, Gauge32, Counter32, Counter64, TimeTicks, **Octet String**, Opaque, IpAddress, Object Identifier
BCD	Integer32, Unsigned32, **Gauge32**, Counter32, Counter64, TimeTicks, Octet String, Opaque
LBCD	Integer32, Unsigned32, **Gauge32**, Counter32, Counter64, TimeTicks, Octet String, Opaque
Date	**Octet String**

Note: The SNMP Agent Plug-In does not support arrays.

Server Data Types Description

Data Type	Description
Bool	Single bit
Char	Signed 8-bit value bit 0 is the low bit bit 6 is the high bit bit 7 is the sign bit
Byte	Unsigned 8-bit value bit 0 is the low bit bit 7 is the high bit

Data Type	Description
Short	Signed 16-bit value bit 0 is the low bit bit 14 is the high bit bit 15 is the sign bit
Word	Unsigned 16-bit value bit 0 is the low bit bit 15 is the high bit
Long	Signed 32-bit value bit 0 is the low bit bit 30 is the high bit bit 31 is the sign bit
DWord	Unsigned 32-bit value bit 0 is the low bit bit 31 is the high bit
Float	32-bit floating point value bit 0 is the low bit bit 31 is the high bit
Double	64-bit floating point value bit 0 is the low bit bit 63 is the high bit
String	Null terminated ASCII string Support includes HiLo LoHi byte order selection.
BCD	Two byte packed BCD Value range is 0-9999. Behavior is undefined for values beyond this range.
LBCD	Four byte packed BCD Value range is 0-99999999. Behavior is undefined for values beyond this range.
Date	64-bit floating point value

Error Descriptions

The following error/warning messages may be generated. Click on the link for a description of the message.

Invalid IP address

Sub-identifier <selected sub-identifier> already in use. The lowest available sub-identifier is <lowest available sub-identifier>.

Sub-identifiers must be within the range of 1 to 4294967295.

The community <community name> has already been added.

The host IP <IP address> has already been added.

The network interface <NIC description>; port <port> has already been added.

The tag does not exist.

The trap recipient has already been added. Please select a different IP, port, community, version, or network adapter.

The rate must be within the range of 10 milliseconds and 49 days.

Unable to bind socket on binding address <IP address>, port <port> and protocol <protocol>.

Unable to create communications thread on socket for binding address <IP address>, port <port> and protocol <protocol>.

Unable to create socket on binding address <IP address>, port <port> and protocol <protocol>.

Item Mapping _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

Trap _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

Trap Trigger _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

SNMP Error-Status Messages

badValue

commitFailed

genError

noError

noSuchName

notWritable

tooBig

wrongType

See Also:

SNMP Error-Status Table

Invalid IP Address.

Error Type:
Error

Source:
Configuration

Possible Cause:
The IP Address specified is invalid.

Solution:
Enter a valid IPv4 address in quad-dotted notation.

Note:
An example of an IPv4 address in quad-dotted notation is 127.0.0.1.

Item Mapping _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

Error Type:
Error

Source:
Runtime

Possible Cause:
The tag referenced in the item mapping does not exist in the project or has an unsupported data type.

Solution:

1. Confirm that the tag referenced in the item mapping exists in the project or add it to the project.

2. Confirm the data type of the tag referenced in the item mapping is not an array and is a supported data type. Correct the data type as necessary.

Sub-identifier <selected sub-identifier> already in use. The lowest available sub-identifier is <lowest available sub-identifier>.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified sub-identifier is already in use by an object at the same level of the tree hierarchy.

Solution:

1. Select the lowest available sub-identifier.

2. Select any other sub-identifier that is not currently in use by an object at the same level of the tree hierarchy.

Sub-identifiers must be within the range of 1 to 4294967295.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified sub-identifier is outside the accepted range of 1 to 4294967295.

Solution:
Select a sub-identifier within the accepted range.

The community <community name> has already been added.

Error Type:
Error

Source:
Configuration

Possible Cause:
A community with the specified name already exists in the list of accepted communities.

Solution:
Make the community name unique, and then add it to the list of accepted communities.

The host IP <IP Address> has already been added.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified host IP Address has already been added to the list of accepted host IP Addresses.

Solution:
Make the host IP Address unique, and then add it to the list of accepted host IP addresses.

The network interface <NIC description>; Port: <port> has already been added.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified network interface has already been added to the list of network interfaces.

Solution:
Make the network adapter or port unique, and then add it to the list of network interfaces.

The tag does not exist.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified server item does not match the fully-qualified path of an existing server item.

Solution:
Enter the fully-qualified path of an existing server item.

Note:
An example of a fully-qualified path is "Channel1.Device1.Item1".

The trap recipient has already been added. Please select a different IP, port, community, version, or network adapter.

Error Type:
Error

Source:
Configuration

Possible Cause:
The specified trap recipient contains the same IP, port, community, version, and network adapter as an entry in the trap recipients list.

Solution:
Make the trap recipient unique by selecting a different IP, port, community, version, or network adapter.

The rate must be within the range of 10 milliseconds and 49 days.

Error Type:
Error

Source:
Configuration

Possible Cause:

The selected update rate is outside the accepted range of 10 milliseconds to 49 days.

Solution:
Specify an update rate within the accepted range.

Trap _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

Error Type:
Error

Source:
Runtime

Possible Cause:
The tag referenced in the trap does not exist in the project or has an unsupported data type.

Solution:

1. Confirm that the tag referenced in the trap exists in the project or add it to the project.

2. Confirm that the data type of the tag referenced in the trap is not an array and is a supported data type. Correct the data type as necessary.

Trap Trigger _SNMP Agent.<agent name>.<item name> is invalid. Verify it does not reference a nonexistent or array-type tag or unsupported data type.

Error Type:
Error

Source:
Runtime

Possible Cause:
The tag referenced in the trap trigger does not exist in the project or has an unsupported data type.

Solution:

1. Confirm that the tag referenced in the trap trigger exists in the project or add it to the project.

2. Confirm the data type of the tag referenced in the trap trigger is not an array and is a supported data type. Correct the data type as necessary.

Unable to bind socket on binding address <IP address>, port <port>, and protocol <protocol>.

Error Type:
Warning

Source:
Runtime

Possible Cause:

Another SNMP application may already be bound to the specified port on the selected binding address.

Solution:

1. Terminate the other SNMP applications (such as the Windows SNMP Agent). Then, stop/start the Runtime Process.

2. Select a different binding address or port.

Unable to create communications thread on socket for binding address <IP address>, port <port>, and protocol <protocol>.

Error Type:
Warning

Source:
Runtime

Possible Cause:
The system may not have enough remaining memory to create new threads.

Solution:
Ensure that adequate system memory is available, and then restart the Runtime process.

Unable to create socket on binding address <IP address>, port <port>, and protocol <protocol>.

Error Type:
Warning

Source:
Runtime

Possible Cause:
Another SNMP application may already be bound to the specified port on the selected binding address.

Solution:

1. Terminate other SNMP applications (such as the Windows SNMP Agent).

2. Select a different binding address or port.

SNMP Error-Status Messages

The following error-status messages may be generated. The error-index included in the message specifies the object identifier (OID) to which the error is related. An error-index of zero means that the error occurred before processing any of the OIDs in the variable-bindings. Click on the link for a description of the message.

SNMP Error-Status Messages

badValue

commitFailed

genError

noError

noSuchName

notWritable

tooBig

wrongType

See Also: SNMP Error-Status Table

SNMP Error-Status Table

The SNMPv2c error-status is mapped to an SNMPv1 error-status using the following table:

SNMPv2c Error-Status	SNMPv1 Error-Status
noError	noError
tooBig	tooBig
noSuchName	noSuchName
badValue	badValue
readOnly	readOnly
genErr	genErr
wrongValue	badValue
wrongEncoding	badValue
wrongType	badValue
wrongLength	badValue
inconsistentValue	badValue
noAccess	noSuchName
notWritable	noSuchName
noCreation	noSuchName
inconsistentName	noSuchName
resourceUnavailable	genErr
commitFailed	genErr
undoFailed	genErr
authorizationError	genErr

badValue

Error Type:
SNMP Response

Possible Cause:

When responding to SNMPv1 requests, this error-status is used in place of wrongType.

Solution:

For more information, refer to **wrongType**.

commitFailed

Error Type:

SNMP Response

Possible Cause:

The attempt to set the OID failed to write to the OPC item.

Solution:

Check the Event Log for details concerning the failure. This error-status is usually returned if the tag does not have Read/Write access, if the device is not responding, or if the device rejected the write.

Notes:

1. When a commitFailed error-status is returned, a set-request containing multiple OIDs to be written does not undo previously set values. As a result, set-requests containing multiple OIDs are not guaranteed to be atomic.

2. This error-status only applies to SNMPv2c. SNMPv1 uses genErr.

See Also:

genErr

genError

Error Type:

SNMP Response

Possible Cause:

An error occurred that cannot be described by an SNMP error-status. When responding to SNMPv1 requests, this response is used in place of commitFailed.

Solution:

For more information, refer to **commitFailed**.

noError

Error Type:

SNMP Response

Possible Cause:

The data returned in the SNMP get-response is valid, and represents the most recently cached value in the SNMP Agent.

Solution:

N/A

Note:
This error-status is used in both SNMPv2c and SNMPv1.

noSuchName

Error Type:
SNMP Response

Possible Cause:
The requested OID is not available.

1. For SNMPv1, this error-status is returned for get-requests that include OIDs that do not exist in the SNMP Agent. For set-requests, noSuchName is returned in the response when the OID is unavailable or cannot be modified.

2. For SNMPv2c, the noSuchObject exception value is used in place of noSuchName. When the OID cannot be modified, notWritable is used in place of noSuchName.

Solution:
Verify that the requested OID is included in the SNMP Agent project.

Note:
For SNMP get-requests, the agent returns a NoSuchName error (SNMPv1) and a NoSuchObject exception (SNMPv2c) when an item mapping's tag quality is not good.

See Also:
SNMP Error-Status Table
notWritable

notWritable

Error Type:
SNMP Response

Possible Cause:
The OID cannot be modified in response to a set-request. This error-status is returned when a specific item mapping is designated as Read Only or if the community string used in the set-request does not have Read/Write access.

Solution:
Ensure that the item mapping permissions and the community string's Read/Write access are set correctly.

Note:
This error-status only applies to SNMPv2c. SNMPv1 uses noSuchName.

See Also:
Creating a New Item Mapping
Communication
noSuchName

tooBig

Error Type:
SNMP Response

Possible Cause:

1. The request contains an unusual number of OIDs.

2. The get-bulk request contains a large number of max-repetitions.

Solution:

1. Decrease the number of OIDs included in the request.

2. Decrease the number of max-repetitions for get-bulk requests.

Note:
This error-status applies to responses for all SNMP requests for SNMPv1 and SNMPv2c (such as get, get-next, get-bulk, and set).

wrongType

Error Type:
SNMP Response

Possible Cause:
The SNMP type for a particular OID does not match the SNMP type configured for the item mapping.

Solution:
Verify that the SNMP data type used in the set-request matches the type configured in the item mapping.

Note:
This error-status only applies to SNMPv2c. SNMPv1 uses badValue.

See Also:
Creating a New Item Mapping
badValue

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