

Altibase® Tools & Utilities

SNMP Agent Guide

Release 7.1 (July 5, 2017)



Altibase® Tools & Utilities SNMP Agent Guide
Release 7.1
Copyright © 2001~2017 Altibase Corp. All rights reserved.

This manual contains proprietary information of Altibase Corporation; it is provided under a license agreement containing restrictions on use and disclosure and is also protected by copyright patent and other intellectual property law. Reverse engineering of the software is prohibited. All trademarks, registered or otherwise, are the property of their respective owners.

Altibase Corp.
10F, Daerung PostTower II,
306, Digital-ro, Guro-gu, Seoul 08378, Korea
Telephone: +82-2-2082-1000 Fax: 82-2-2082-1099
Homepage: <http://www.altibase.com>

Contents

Preface	7
About This Manual	8
Target Users	8
Software Dependencies	8
How This Manual is Structured	8
Documentation Conventions	9
Related Documents	10
Online Manuals	10
Altibase Welcomes Your Opinions	10
1. Introduction to SNMP	13
1.1 What is SNMP	14
1.1.1 Overview of SNMP	14
1.1.2 Management Information Base (MIB) Structure and OID	14
1.1.3 ALTIBASE-MIB	15
1.1.4 SNMP Related Terminology	16
1.2 Altibase-SNMP Model	19
2. Installing the SNMP Agent	21
2.1 Installing the SNMP Agent	22
2.1.1 Downloading the Package	22
2.2 Setting Altibase Properties	23
2.3 Installing and Running the Altibase NET-SNMP Package	24
2.3.1 Setting Environment Variables	24
2.3.2 Configuring and Executing snmpd	24
2.3.3 Executing snmptrapd	25
2.3.4 Executing altisnmpd	26
2.3.5 Executing Altibase	27
2.4 Configuration for a Previously Installed NET-SNMP	29
2.4.1 Setting Altibase Properties	29
2.4.2 Registering ALTIBASE-MIB.txt	29
2.4.3 Configuring and Running altisnmpd	29
3. How to Use SNMP	31
3.1 SNMP Commands	32
3.1.1 SNMP GET	32

3.1.2 SNMP WAK.....	32
3.1.3 SNMP SET	32
3.1.4 SNMP TRAP.....	32
4. Checking and Changing Properties.....	33
4.1 altiPropertyTable	34
4.1.1 altiPropertyIndex MIB(1).....	34
4.1.2 altiPropertyAlarmQueryTimeout MIB(2).....	35
4.1.3 altiPropertyAlarmFetchTimeout MIB(3)	35
4.1.4 altiPropertyAlarmUtransTimeout MIB(4).....	36
4.1.5 altiPropertyAlarmSessionFailureCount MIB(5).....	37
5. Viewing the Altibase Status.....	39
5.1 altiStatus	40
5.1.1 altiStatusIndex MIB(1).....	40
5.1.2 altiStatusDBName(2).....	41
5.1.3 altiStatusDBVersion MIB(3).....	41
5.1.4 altiStatusRunningTime MIB(4).....	42
5.1.5 altiStatusProcessID MIB(5)	42
5.1.6 altiStatusSessionCount MIB(6).....	43
6. Traps	45
6.1 altiTrap.....	46
6.1.1 altiNotification MIB(1)	46
6.1.2 altiTrapAddress MIB(2)	47
6.1.3 altiTrapLevel(3)	47
6.1.4 altiTrapCode(4).....	47
6.1.5 altiTrapMessage(5)	48
6.1.6 altiTrapMoreInfo(6).....	48
6.2 Trap Codes.....	49
6.2.1 Altibase Running Status.....	49
6.2.2 Altibase UnRunning Status.....	49
6.2.3 Altibase Subagent Running Status.....	50
6.2.4 Altibase Subagent UnRunning Status	50
6.2.5 Session Query Timeout	51
6.2.6 Session Fetch Timeout	51
6.2.7 Session Utrans Timeout.....	52
6.2.8 Too Many Continuous Query Failure	53
Appendix A. ALTIBASE-MIB.....	55

ALTIBASE-MIB.txt	55
Appendix B. Troubleshooting	59
FAQ	59
altismpd Related FAQ	59

Preface

About This Manual

This manual discusses the Simple Network Management Protocol (SNMP) and ALTIBASE-MIB components.

Target Users

This manual has been prepared for the following Altibase users:

- Database administrators
- Technical support staff

This manual assumes that you have the following:

- A working knowledge of your computer, your operating system, and the utilities that your operating system provides.
- Some experience working with relational databases or exposure to database concepts.
- Some experience with computer programming.
- Some experience with database server administration, operating system administration or network administration.

Software Dependencies

This manual was written under the assumption that Altibase version 7.1 or above is being used as a database server.

How This Manual is Structured

This manual covers the following topics:

- [Chapter1: Introduction to SNMP](#)
The chapter provides an introduction to the Simple Network Management Protocol (SNMP) and explains the components of ALTIBASE-MIB.
- [Chapter2: Installing the SNMP Agent](#)
This chapter explains how to install the SNMP agent and configure Altibase to use SNMP.
- [Chapter3: How to Use SNMP](#)

- [Chapter4: Checking and Changing Properties](#)
This chapter discusses how to check and change Altibase properties with altiPropertyTable.
- [Chapter5: Viewing the Altibase Status](#)
This chapter discusses how to view the Altibase status using SNMP.
- [Chapter6: Traps](#)
This chapter discusses OIDs sent to the manager using traps when significant events occur in Altibase.
- [Appendix A. ALTIBASE-MIB](#)
- [Appendix B. Troubleshooting](#)

Documentation Conventions

This section offers documentation conventions as follows. They make it easier to gather information from Altibase manuals.

Sample Code Conventions

The code examples explain SQL statements, stored procedures, iSQL statements, and other command line syntax.

The following table describes the printing conventions used in the code examples.

Rule	Meaning	Example
[]	Indicates an optional item.	VARCHAR [(size)] [[FIXED] VARIABLE]
{ }	Indicates a mandatory field for which one or more items must be selected.	{ ENABLE DISABLE COMPILE }
	A delimiter between optional or mandatory arguments.	{ ENABLE DISABLE COMPILE } [ENABLE DISABLE COMPILE]
. . . .	Indicates that the previous argument is repeated, or that sample code has been omitted.	iSQL> select e_lastname from employees; E_LASTNAME ----- Moon Davenport

Other Symbols	Symbols other than those shown above are part of the actual code.	EXEC :p1 := 1; acc NUMBER(11,2);
Italics	Statement elements in italics indicate variables and special values specified by the user.	SELECT * FROM table_name; CONNECT <i>userID/password</i> ;
Lower Case words	Indicate program elements set by the user, such as table names, column names, file names, etc.	SELECT e_lastname FROM employees;
Upper Case words	Keywords and all elements provided by the system appear in upper case.	DESC SYSTEM_.SYS_INDEX_;

Related Documents

For more detailed information, please refer to the following documents:

- Administrator's Manual
- Error Message Reference
- Getting Started Guide
- Installation Guide
- iSQL User's Manual
- ODBC Reference
- Precompiler User's Manual
- Replication Manual
- SQL Reference
- Utilities Manual

Online Manuals

Online versions of our manuals (PDF or HTML) are available from Altibase's Customer Support site (<http://altibase.com/support-center/>).

Altibase Welcomes Your Opinions

Please feel free to send us your comments and suggestions regarding this manual. Your comments and suggestions are important to us, and may be used to improve future versions of the manual. When you send your feedback, please make sure to include the following information:

- The name and version of the manual you are using
- Your comments and suggestions regarding the manual
- Your full name, address, and phone number

In addition to suggestions, this address may also be used to report any errors or omissions discovered in the manual, which we will address promptly.

If you need immediate assistance with technical issues, please contact Altibase's Customer Support site (<http://altibase.com/support-center/>).

We always appreciate your comments and suggestions.

1. Introduction to SNMP

The chapter provides an introduction to the Simple Network Management Protocol (SNMP) and explains the components of ALTIBASE-MIB.

1.1 What is SNMP

1.1.1 Overview of SNMP

The Simple Network Management Protocol (SNMP) is a protocol that sends the network server status and the process status to the manager.

Prior to the advent of SNMP, the Internet Control Message Protocol (ICMP) provided brief information, such as whether each network host was functioning properly and if so, its response time and so on. Ping is probably one of the most useful programs that use ICMP.

As use of the internet became widespread, the number of network hosts increased and this led to a complex network environment. Since it became impossible to efficiently manage network using only ICMP, research was conducted on alternative protocols and this led to the development of SGMP, HEMS, CMIP/SMIS and so on. Among these, SNMP (an improvement to SGMP) became the standard protocol for network management.

SNMP is an improvement to SGMP and accepts the MIB definition for HEMS.

1.1.2 Management Information Base (MIB) Structure and OID

SNMP manages a Management Information Base (MIB) which is the categorized information of objects to be managed. System information, network usage, network interface information are examples of such objects. The SNMP agent monitors traffic and stores statistical information in its MIB. Variables defined by the MIB can be changed with a Network Management System (NMS) or by the SNMP manager.

The MIB structure is shown below. MIB objects are structured as a tree for easy management.

Data is requested as below:

```
ISO.org.dod.internet.mgmt.mib-2.system.sysDescr
```

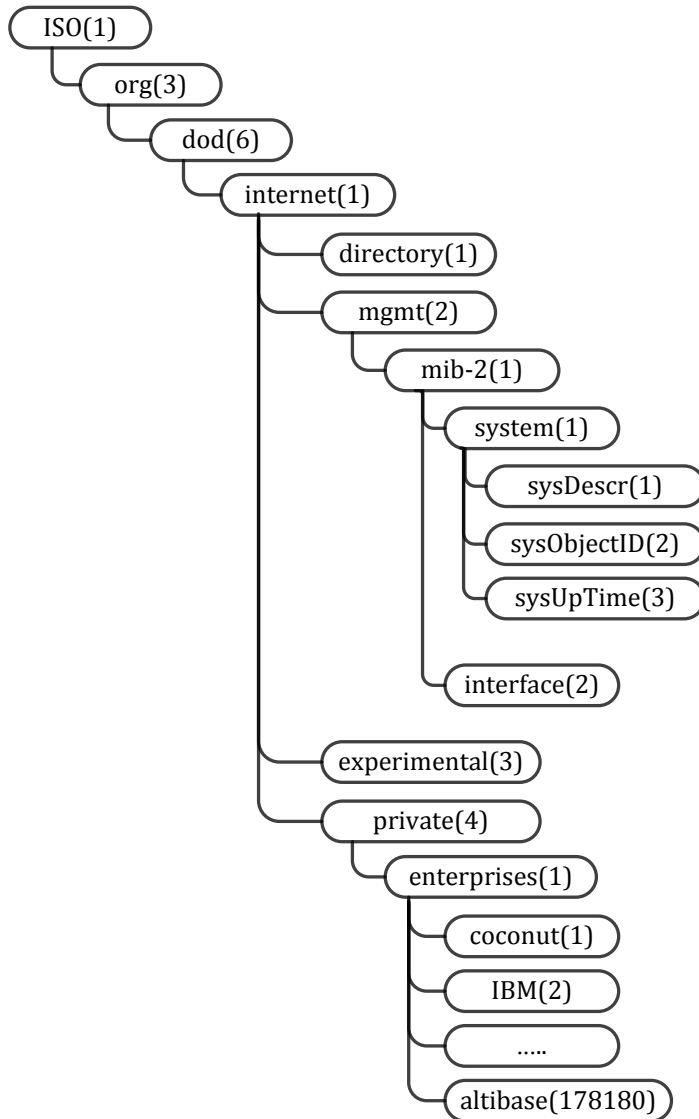
However, this request is converted to numbers when requesting for data as below:

```
1.3.6.1.2.1.1.1
```

Each MIB can be represented in numbers. These numbers are called OIDs.

Internet Assigned Number Authority (IANA) maintained MIBs are acknowledged as the standard. IANA OIDs are necessary to implement a standard MIB module. This way, users can use multiple MIBs without having to worry about duplicates.

Figure 1-1 Typical MIB Structure

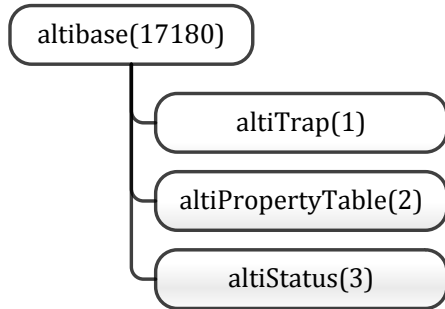


1.1.3 ALTIBASE-MIB

Altibase has registered an entity and uses the IANA OID altibase(17180) under enterprises(1)¹.

¹An MIB has a hierarchical structure and can be extended when necessary. The user may wish to add an MIB for a product only available for use in the office or a product that controls the network within a limited network area. In this case, the user can create his or her own MIB and define it under private(4) and enterprises(1).

Figure 1-2 ALTIBASE-MIB



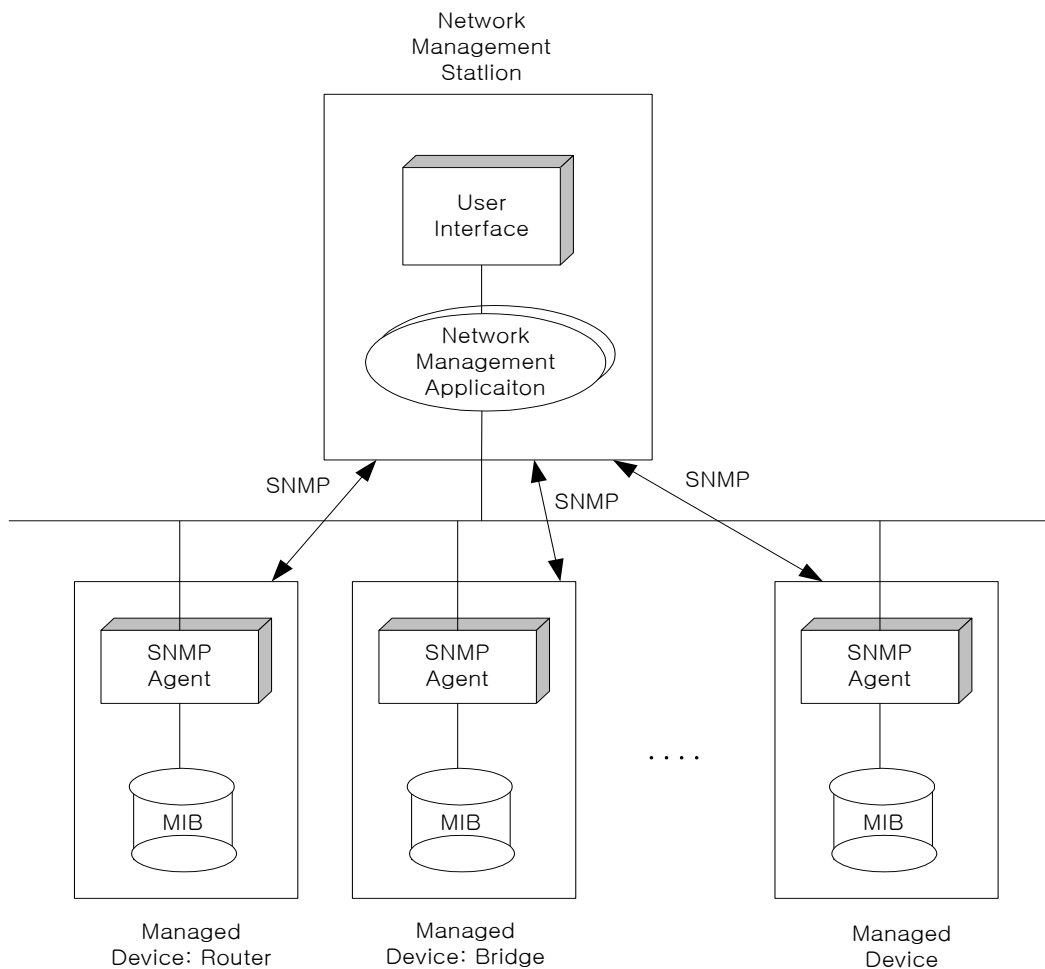
ALTIBASE-MIB is classified as altiTrap, altiPropertyTable, and altiStatus. Each MIB contains the following information for which further information is given in the next chapter.

- altiTrap MIB: Defines the OID used in the trap when a significant situation is detected.
- altiPropertyTable MIB: Reads or changes Altibase's environment properties.
- altiStatus MIB: Displays Altibase's status.

1.1.4 SNMP Related Terminology

This section explains SNMP terminology in Altibase.

Figure 1-3 Diagram of SNMP



- **Simple Network Management Protocol (SNMP)**

SNMP is a protocol for network management. Information such as the network server status, the process status and so on are sent to the manager.

- **Management Information Base (MIB)**

MIB is a categorical classification of the objects used by SNMP to monitor and control the network. System information, network usage, network interface information and so on are target objects for management. MIB objects have a tree structure for easy management.

- **OID**

When requesting for information, MIB can be represented as numbers. OIDs are granted OID numbers from the Internet Assigned Number Authority (IANA) to implement a standard MIB.

- **ALTIBASE-MIB**

Altibase has registered an entity and uses the OID `altibase(17180)` under `enterprises(1)`.

- **SNMP Agent**

The SNMP agent installs `snmpd` and `snmptrapd` in a monitor target object, collects management information, and sends it to the manager.

- **`snmpd`**

`snmpd` is the SNMP master agent daemon.

- **`snmptrapd`**

`snmptrapd` is the daemon for SNMP traps.

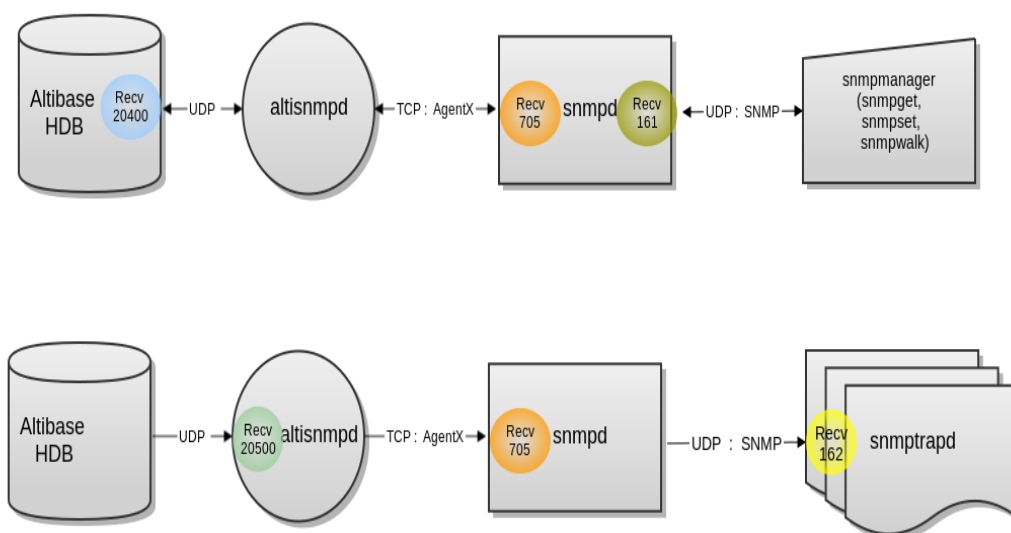
- **`altisnmpd`**

`altisnmpd` is the SNMP subagent daemon installed on the Altibase server.

1.2 Altibase-SNMP Model

This section discusses how SNMP manages a network.

Figure 1-4 Altibase-SNMP Model



The upper figure shows how `snmpmanager` gets Altibase MIB (The port number is `net-snmp` by default). This is the sync method. If `snmpmanager` sends a request on UDP port 161, `snmpd` passes this request to `altisnmpd` on TCP port 705, which in turn `altisnmpd` ultimately passes on to Altibase on UDP port 20400. When `altisnmpd` receives a response from Altibase, `altisnmpd` passes it on to `snmpd` and this is ultimately passed on to `snmpmanager`.

The lower figure shows how a trap raised in Altibase is passed on to `snmpd`. This is the async method. If Altibase passes the trap to `altisnmpd` on UDP port 20500, `altisnmpd` passes it on TCP port 705 to `snmpd`, and `snmpd` ultimately passes it on UDP port 162 to `snmptrapd`.

Altibase's own protocol is used between Altibase and `altisnmpd`. AgentX, the standard protocol for master agent/subagent communication is used between `altisnmpd` and `snmpd`.

2. Installing the SNMP Agent

This chapter explains how to install the SNMP agent and configure Altibase to use SNMP.

2.1 Installing the SNMP Agent

This section explains how to install the SNMP agent and configure it for Altibase. To run net-snmp, Altibase can be configured using

- the Altibase NET-SNMP package

or

- the NET-SNMP in a previously installed environment.

The Altibase SNMP agent complies with the open source net-snmp. For further information about how to configure the NET-SNMP binary and environment configuration files, please refer to the net-snmp homepage (<http://www.net-snmp.org/>).

2.1.1 Downloading the Package

Visit the Altibase homepage (www.altibase.com), download the Altibase package, and install it.

If altibase-snmp-xxx.tar.gz is unzipped, the user will see the following:

```
$ gzip -d altibase-snmp-xxx.tar.gz
$ tar xvf altibase-snmp-xxx.tar
...
...
...
== bin
   = snmp manger (snmpget, snmpset, snmpwak)

== sbin
   = snmpd      : snmp Master/Sub agent daemon
   = snmptrapd : snmp trap daemon
   = altisnmpd : Altibase snmp sub agent daemon

== share/snmp/mibs
   = ALTIBASE-MIB.txt : Altibase MIB

== etc/snmp
   = snmpd.conf : snmpd environment configuration file
   = altisnmpd.conf : altisnmpd environment configuration file

= altisnmp.env : set environment variable
```

Apart from three files (altisnmpd, altisnmpd.conf, and ALTIBASE-MIB.txt), the files are binaries compiled with net-snmp source.

Only the above three files need to be configured, if snmp is used for net-snmp on a customer's server.

2.2 Setting Altibase Properties

To use the SNMP feature in Altibase, the properties file must be changed accordingly. The Altibase properties file is located at `$ALTIBASE_HOME/conf`.

The following are SNMP related properties. For further information about each property, please refer to the *General Reference*.

- `SNMP_ALARM_FETCH_TIMEOUT`
- `SNMP_ALARM_QUERY_TIMEOUT`
- `SNMP_ALARM_SESSION_FAILURE_COUNT`
- `SNMP_ALARM_UTRANS_TIMEOUT`
- `SNMP_ENABLE`
- `SNMP_MSGLOG_FLAG`
- `SNMP_PORT_NO`
- `SNMP_RECV_TIMEOUT`
- `SNMP_SEND_TIMEOUT`
- `SNMP_TRAP_PORT_NO`

2.3 Installing and Running the Altibase NET-SNMP Package

This section discusses how to configure and run the Altibase NET-SNMP package. Please set the default port number to (existing value + 1000) so as to prevent it crashing with the snmp running on the system.

2.3.1 Setting Environment Variables

Environment variables can be set with the source command to easily execute binaries. In the following examples, this manual assumes that altisnmp.env is the set environment.

```
$ source altisnmp.env
ALTISNMP=/home/donlet/work/altibase-snmpp-1.0.1.release
ALTISNMPCONF=/home/donlet/work/altibase-snmpp-1.0.1.release/etc/snmpp
ALTISNMPPBIN=/home/donlet/work/altibase-snmpp-1.0.1.release/bin
ALTISNMPPSBIN=/home/donlet/work/altibase-snmpp-1.0.1.release/sbin
SNMP_PERSISTENT_FILE=/home/donlet/work/altibase-snmpp-1.0.1.release/var/net
snmpp/snmppd.conf
SNMP_PERSISTENT_DIR=/home/donlet/work/altibase-snmpp-1.0.1.release/var/net
snmpp
MIBDIRS=/home/donlet/work/altibase-snmpp-1.0.1.release/share/snmpp/mibs
MIBS=ALL
```

2.3.2 Configuring and Executing snmppd

snmppd is the master agent daemon of SNMP. This section explains the necessary environment configuration for snmppd and how to execute it.

2.3.2.1 Setting the Environment Configuration File

The port number and snmppd must be set to use SNMP.

Set the port number 1162 for snmppd and snmpttrapd, and set snmppd as the master agent.

```
$ cat $ALTISNMPCONF/snmppd.conf
rocommunity public
rwcommunity private
syslocation mysystem
syscontact admin@mail.com
syservices 0
trap2sink localhost public 1162
master agentx
```

2.3.2.2 Execution

The execution options for the SNMP agent are [-f], [-l], [-s], and [-P]. [-f] allows the user to view snmppd execution in the foreground. [-l] writes logs into files, [-s] writes logs in syslogs, and [-P]

creates pid files.

The user can check whether `snmpd` is being executed in the foreground as below.

```
$ $ALTISNMPSBIN/snmpd -f -L -c $ALTISNMPCONF/snmpd.conf -C -x localhost:1705 udp:localhost:1161
Turning on AgentX master support.
NET-SNMP version 5.0.8
```

In this example, `snmpd` and the altibase `snmp` subagent are communicating on TCP port 1705. `snmpd` and `snmpmanager` (`snmpget`, `snmpset`, `snmpwalk`, etc.) are communicating on UDP port 1161.

The user can terminate `snmpd` execution in the foreground and execute it in the background with "Ctrl+C". The `[-f]` and `[-l]` options have been removed to execute `snmpd` in the background.

```
$ $ALTISNMPSBIN/snmpd -c $ALTISNMPCONF/snmpd.conf -C -x localhost:1705 -l /tmp/snmpd.log -s -P
/tmp/snmpd.pid udp:localhost:1161
```

2.3.2.3 snmpd Termination

The SNMP agent can be terminated with the kill command.

```
$ kill `cat /tmp/snmpd.pid`
```

2.3.3 Executing snmptrapd

`snmptrapd` is a daemon for SNMP traps. This section explains how to use `snmptrapd`.

The execution options `[-f]`, `[-o]`, `[-s]`, and `[-u]` are available for `snmptrapd`. `[-f]` allows the user to view `snmptrapd` execution in the foreground. `[-o]` writes logs into files, `[-s]` writes logs in syslogs, and `[-u]` creates pid files.

The user can check whether `snmptrapd` is being executed in the foreground as below.

Since `trap2sink` is set to port 1162 for `snmpd.conf`, the option must be set to `udp:localhost:1162`.

```
$ $ALTISNMPSBIN/snmptrapd -f -P udp:localhost:1162
2014-10-28 14:46:32 NET-SNMP version 5.0.8 Started.
```

The user can terminate `snmptrapd` execution in the foreground and execute it in the background with "Ctrl+C". The `[-f]` and `[-P]` options have been removed to execute `snmpd` in the background.

```
$ $ALTISNMPSBIN/snmptrapd -s -o /tmp/snmptrapd.log -u /tmp/snmptrapd.pid udp:localhost:1162
```

For example, start `snmpd` while `snmptrapd` is running. A trap that notifies that `snmpd` has restarted is written in `syslog` and the `/tmp/snmptrapd.log` file.

The user is able to check that `snmpd` and `snmptrapd` are communicating properly.

```
$ cat /tmp/snmptrapd.log
Starting snmptrapd 5.0.8
2014-10-28 14:57:40 NET-SNMP version 5.0.8 Started.
2014-10-28 14:58:12 localhost [127.0.0.1]:
    SNMPv2-MIB::sysUpTime.0 = Timeticks: (2) 0:00:00.02    SNMPv2
```

```

MIB::snmpTrapOID.0 = OID: SNMPv2-MIB::coldStart   SNMPv2-MIB::snmpTrapEnte
prise.0 = OID: NET-SNMP-TC::linux
localhost [127.0.0.1]: Trap SNMPv2-MIB::sysUpTime.0 = Timeticks: (2)
0:00:00.02, SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-MIB::coldStart, SNMPv2
MIB::snmpTrapEnterprise.0 = OID: NET-SNMP-TC::linux
2014-10-28 14:58:14 localhost [127.0.0.1]:
      SNMPv2-MIB::sysUpTime.0 = Timeticks: (143) 0:00:01.43   SNMPv2
MIB::snmpTrapOID.0 = OID: NET-SNMP-AGENT-MIB::nsNotifyShutdown
localhost [127.0.0.1]: Trap SNMPv2-MIB::sysUpTime.0 = Timeticks: (143)
0:00:01.43, SNMPv2-MIB::snmpTrapOID.0 = OID: NET-SNMP-AGENT-MIB::nsNot
fyShutdown

```

2.3.3.1 Terminating snmptrapd

snmptrapd can be terminated with the `kill` command.

```
$ kill `cat /tmp/snmptrapd.pid`
```

2.3.4 Executing altisnmpd

altisnmpd is an SNMP subagent daemon installed in the Altibase server. This section explains how to set the environment configuration file and execute altisnmpd.

2.3.4.1 Setting the Environment Configuration File

For altisnmpd to communicate with the Altibase server, `SNMP_PORT_NO` must be set identically as it was set for the Altibase environment configuration file.

altibase_trap must also be set identically as `SNMP_TRAP_PORT_NO` for Altibase.

```

$ cat $ALTISNMPCONF/altisnmpd.conf
# ALTIBASE PORT_NO SNMP_PORT_NO
altibase 20300 20400
# ALTIBASE_TRAP SNMP_TRAP_PORT_NO
altibase_trap 20500

```

To communicate with multiple Altibase servers, indicate the servers in the environment configuration file as below.

```

altibase 20300 20400
altibase 52473 20800
...

```

2.3.4.2 Executing altisnmpd

The execution options `[-f]`, `[-l]`, `[-s]`, and `[-P]` are available for altisnmpd. `[-f]` allows the user to view snmpd execution in the foreground. `[-l]` writes logs into files, `[-s]` writes logs in syslogs, and `[-P]` creates pid files.

Execute altisnmpd in the foreground to check whether it is running.

```

$ $ALTISNMPSBIN/altisnmpd -f -L -c $ALTISNMPCONF/altisnmpd.conf -x localhost:1705
AgentX subagent for Altibase

```

```
NET-SNMP version 5.0.8
```

```
Altibase[0] : 20300      20400
```

```
Trap : 20500
```

Since snmpd and altisnmpd communicate on TCP port 1705, the user can see that -x localhost is set to 1705. The [-f] and [-L] options are removed for background execution.

```
$ $ALTISNMPSBIN/altisnmpd -c $ALTISNMPCONF/altisnmpd.conf -l /tmp/altisnmpd.log -s -P /tmp/altisnmpd.pid -x localhost:1705
```

2.3.4.3 Terminating altisnmpd

altisnmpd can be terminated with the kill command.

```
$ kill `cat /tmp/altisnmpd pid`
```

If altisnmpd is executed or terminated, a trap is raised and this can be checked with snmptrapd.

```
2014-10-28 15:39:57 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1987) 0:00:19.87  SNMPv2-MIB::snm
TrapOID.0 = OID: SNMPv2-SMI::private  ALTIBASE-MIB::altiTrapAddress =
STRING: 12944  ALTIBASE-MIB::altiTrapLevel = STRING: 3 ALTIBASE-MIB::altiTra
pCode = STRING: 10000003  ALTIBASE-MIB::altiTrapMessage = STRING: /home
donlet/work/altibase-snm-1.0.1.release/sbin/altisnmpd is running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING: coldstart
2014-10-28 15:41:29 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (11225) 0:01:52.25 SNMPv2
MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private  ALTIBASE-MIB::altiTrapA
dress = STRING: 12961  ALTIBASE-MIB::altiTrapLevel = STRING: 3 ALTIBASE
MIB::altiTra
pCode = STRING: 10000003  ALTIBASE-MIB::altiTrapMessage = STRING: /home
donlet/work/altibase-snm-1.0.1.release/sbin/altisnmpd is running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING: coldstart
```

2.3.5 Executing Altibase

To execute Altibase, the following properties must be set according to the client environment. For further information about properties, please refer to [Setting Altibase Properties](#).

- SNMP_ENABLE
- SNMP_PORT_NO
- SNMP_TRAP_PORT_NO

Run Altibase and execute the following command.

```
$ $ALTISNMPSBIN/snmpwalk -v 2c -c private udp:localhost:1161 altibase
ALTIBASE-MIB::altiPropertyIndex.1 = INTEGER: 1
ALTIBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmUtransTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmFetchTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.1 = STRING: 3
ALTIBASE-MIB::altiStatusIndex.1 = INTEGER: 1
ALTIBASE-MIB::altiStatusDBName.1 = STRING: mydb
```

ALTIBASE-MIB::altiStatusDBVersion.1 = STRING: 7.1.0.0.0
ALTIBASE-MIB::altiStatusRunningTime.1 = STRING: 00:00:02
ALTIBASE-MIB::altiStatusProcessID.1 = STRING: 12973
ALTIBASE-MIB::altiStatusSessionCount.1 = STRING: 0

If SNMP is running properly, ALTIBASE-MIB information will be output properly.

2.4 Configuration for a Previously Installed NET-SNMP

This section explains how to link net-snmp altisnmpd (the altibase snmp subagent) and net-snmp, when net-snmp is already installed on a customer's server.

This section provides examples assuming that an snmpd package is already installed in /usr on the customer's server.

- [Setting Altibase Properties](#)
- [Registering ALTIBASE-MIB.txt](#)
- Configuring altisnmpd
- altisnmpd.conf

2.4.1 Setting Altibase Properties

The following Altibase properties must be set according to the customer's environment.

- SNMP_ENABLE
- SNMP_PORT_NO
- SNMP_TRAP_PORT_NO

2.4.2 Registering ALTIBASE-MIB.txt

Copy ALTIBASE-MIB.txt and add it to the SNMP environment configuration file, snmp.conf. In this case, it is unnecessary to restart snmpd.

```
sudo cp $ALTISNMP/share/snmp/mibs/ALTIBASE-MIB.txt /usr/share/snmp/mibs  
  
# vi /etc/snmp/snmp.conf  
mibs +ALTIBASE-MIB
```

2.4.3 Configuring and Running altisnmpd

For further information about altisnmpd configuration, please refer to Executing altisnmpd.

The port for snmpd must be specified. The default value is snmp.conf. If another value is set, please contact the system administrator.

```
$ $ALTISNMPSBIN/altisnmpd -c $ALTISNMPCONF/altisnmpd.conf -l /tmp/altisnmpd.log -s -P /tmp/altisnmpd.pid  
-x localhost:705
```

After running Altibase, execute the snmpwalk command.

```
$ /usr/bin/snmpwalk -v 2c -c private localhost:161 altibase
ALTIBASE-MIB::altiPropertyIndex.1 = INTEGER: 1
ALTIBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmUtransTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmFetchTimeout.1 = STRING: 1
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.1 = STRING: 3
ALTIBASE-MIB::altiStatusIndex.1 = INTEGER: 1
ALTIBASE-MIB::altiStatusDBName.1 = STRING: mydb
ALTIBASE-MIB::altiStatusDBVersion.1 = STRING: 7.1.0.0.0
ALTIBASE-MIB::altiStatusRunningTime.1 = STRING: 00:38:00
ALTIBASE-MIB::altiStatusProcessID.1 = STRING: 12973
ALTIBASE-MIB::altiStatusSessionCount.1 = STRING: 0
```

If the snmpwalk command is executed and the following is output, the user should check the ACL setting in /etc/snmp/snmpd.conf.

```
$ /usr/bin/snmpwalk -v 2c -c private localhost:161 altibase
Timeout: No Response from localhost:161

/etc/snmp/snmpd.conf
# Full access from the local host
#rocommunity public localhost
#rwcommunity private localhost
```

For full access, the system administrator must remove the comment.

3. How to Use SNMP

3.1 SNMP Commands

SNMP receives network information either when there is a request or a significant event occurs.

SNMP is an asynchronous protocol that communicates on User Datagram Protocol (UDP) and only performs the following four simple operations.

3.1.1 SNMP GET

SNMP GET retrieves a certain OID value from the SNMP agent. The basic information used for this operation is the server address (or name) or community name (for privileges) of the server on which the agent is installed, and the OID number or MIB hierarchy name.

3.1.2 SNMP WAK

SNMP WAK retrieves the next OID of a certain OID from the SNMP agent. This is usually called in series to retrieve all the OIDs under a certain OID.

3.1.3 SNMP SET

SNMP SET changes the value of a certain OID.

3.1.4 SNMP TRAP

SNMP TRAP notifies that a significant event has occurred. Traps are used to notify asynchronous events.

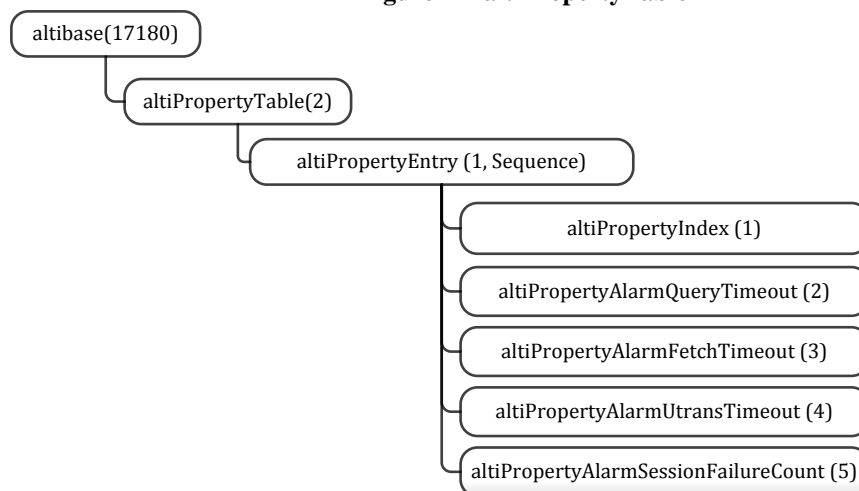
4. Checking and Changing Properties

This chapter discusses how to check and change Altibase properties with `altiPropertyTable`.

4.1 altiPropertyTable

Altibase settings can be checked or changed using altiPropertyTable.

Figure 4-1 altiPropertyTable MIB



altiPropertyTable(2) under altibase(17180) has 6 subobjects. If multiple databases exist on one server, subobjects are grouped for classification. In the above figure, 5 objects are grouped under altiPropertyEntry to separate one from another.

4.1.1 altiPropertyIndex MIB(1)

4.1.1.1 OID

1.3.6.1.4.1.17180.2.1.1

4.1.1.2 Syntax

DisplayString

4.1.1.3 Max-Access

Read-only

4.1.1.4 Description

Starting at 1, the altiPropertyIndex value increases by 1, depending on the number of Altibase servers managed by the Altibase SNMP subagent.

4.1.1.5 Example

```
$ snmpget -v 2c -c private localhost altiPropertyIndex.1
ALTBASE-MIB::altiPropertyIndex.1 = INTEGER: 1
$ snmpwalk -v 2c -c private localhost altiPropertyIndex
ALTBASE-MIB::altiPropertyIndex.1 = INTEGER: 1
ALTBASE-MIB::altiPropertyIndex.2 = INTEGER: 1
```

4.1.2 altiPropertyAlarmQueryTimeout MIB(2)

4.1.2.1 OID

1.3.6.1.4.1.17180.2.1.2

4.1.2.2 Syntax

DisplayString

4.1.2.3 Max-Access

Read-write

4.1.2.4 Description

altiPropertyAlarmQueryTimeout sets whether or not to raise a trap when a query timeout occurs in a session connected to Altibase. If this value is 0, a trap is not raised.

The initial value can be set for SNMP_ALARM_QUERY_TIMEOUT and the default value is 1.

4.1.2.5 Example

```
$ snmpwalk -v 2c -c private localhost altiPropertyAlarmQueryTimeout
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 1
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 2
$ snmpset -v 2c -c private localhost altiPropertyAlarmQueryTimeout.1 s 0
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 0
$ snmpget -v 2c -c private localhost altiPropertyAlarmQueryTimeout.1
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 0
```

4.1.3 altiPropertyAlarmFetchTimeout MIB(3)

4.1.3.1 OID

1.3.6.1.4.1.17180.2.1.3

4.1.3.2 Syntax

DisplayString

4.1.3.3 Max-Access

Read-write

4.1.3.4 Description

altiPropertyAlarmFetchTimeout sets whether or not to raise a trap when a query timeout occurs in a session connected to Altibase. If this value is 0, a trap is not raised.

The initial value can be set for SNMP_ALARM_QUERY_TIMEOUT and the default value is 1.

4.1.3.5 Example

```
$ snmpwalk -v 2c -c private localhost altiPropertyAlarmQueryTimeout
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 1
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 2
$ snmpset -v 2c -c private localhost altiPropertyAlarmQueryTimeout.1 s 0
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 0
$ snmpget -v 2c -c private localhost altiPropertyAlarmQueryTimeout.1
ALTBASE-MIB::altiPropertyAlarmQueryTimeout.1 = STRING: 0
```

4.1.4 altiPropertyAlarmUtransTimeout MIB(4)

4.1.4.1 OID

1.3.6.1.4.1.17180.2.1.4

4.1.4.2 Syntax

DisplayString

4.1.4.3 Max-Access

Read-write

4.1.4.4 Description

altiPropertyAlarmUtransTimeout sets whether or not to raise a trap when a utrans timeout occurs in a session connected to Altibase. If this value is 0, a trap is not raised.

The initial value can be set for SNMP_ALARM_UTRANS_TIMEOUT and the default value is 1.

4.1.4.5 Example

```
$ snmpwalk -v 2c -c private localhost altiPropertyAlarmUTransTimeout
ALTBASE-MIB::altiPropertyAlarmUTransTimeout.1 = STRING: 1
ALTBASE-MIB::altiPropertyAlarmUTransTimeout.1 = STRING: 2
$ snmpset -v 2c -c private localhost altiPropertyAlarmUTransTimeout.1 s 0
ALTBASE-MIB::altiPropertyAlarmUTransTimeout.1 = STRING: 0
```

```
$ snmpget -v 2c -c private localhost altiPropertyAlarmUTransTimeout.1
ALTIBASE-MIB::altiPropertyAlarmUTransTimeout.1 = STRING: 0
```

4.1.5 altiPropertyAlarmSessionFailureCount MIB(5)

4.1.5.1 OID

1.3.6.1.4.1.17180.2.1.5

4.1.5.2 Syntax

DisplayString

4.1.5.3 Max-Access

Read-write

4.1.5.4 Description

altiPropertyAlarmSessionFailureCount sets the number of times an error needs to continuously occur for a trap to be raised in a session connected to Altibase. If this value is 0, a trap is not raised.

The initial value can be set for SNMP_ALARM_SESSION_FAILURE_COUNT and the default value is 3.

4.1.5.5 Example

```
$ snmpwalk -v 2c -c private localhost altiPropertyAlarmSessionFailureCount
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.1 = STRING: 3
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.2 = STRING: 3
$ snmpset -v 2c -c private localhost altiPropertyAlarmSessionFailureCount.1 s
2
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.1 = STRING: 2
$ snmpget -v 2c -c private localhost altiPropertyAlarmSessionFailureCount.1
ALTIBASE-MIB::altiPropertyAlarmSessionFailureCount.1 = STRING: 2
```

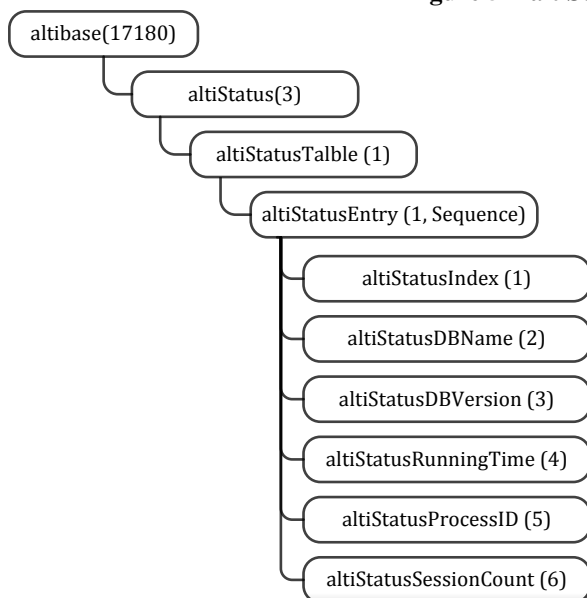

5. Viewing the Altibase Status

This chapter discusses how to view the Altibase status using SNMP.

5.1 altiStatus

The Altibase status can be viewed using altiStatus.

Figure 5-1 altiStatus MIB



The altiStatus MIB has altiStatus(3) under altibase(17180). altiStatus has altiStatusTable(1) that contains status information of Altibase. This information is classified into 6 objects under altiStatusEntry.

5.1.1 altiStatusIndex MIB(1)

5.1.1.1 OID

1.3.6.1.4.1.17180.3.1.1.1

5.1.1.2 Syntax

DisplayString

5.1.1.3 Max-Access

Read-only

5.1.1.4 Description

Starting at 1, the altiPropertyIndex value increases by 1, depending on the number of Altibase servers managed by the Altibase SNMP subagent.

5.1.1.5 Example

```
$ snmpget -v 2c -c public localhost altiStatusIndex.1  
ALTIBASE-MIB::altiStatusIndex.1 = INTEGER: 1  
$ snmpwalk -v 2c -c public localhost altiStatusIndex  
ALTIBASE-MIB::altiStatusIndex.1 = INTEGER: 1  
ALTIBASE-MIB::altiStatusIndex.2 = INTEGER: 2
```

5.1.2 altiStatusDBName(2)

5.1.2.1 OID

1.3.6.1.4.1.17180.3.1.1.2

5.1.2.2 Syntax

DisplayString

5.1.2.3 Max-Access

Read-only

5.1.2.4 Description

altiStatusDBName displays the Altibase name.

5.1.2.5 Example

```
$ snmpget -v 2c -c public localhost altiStatusIndex.1  
ALTIBASE-MIB::altiStatusDBName.1 = STRING: mydb  
$ snmpwalk -v 2c -c public localhost altiStatusIndex  
ALTIBASE-MIB::altiStatusDBName.1 = STRING: mydb  
ALTIBASE-MIB::altiStatusDBName.2 = STRING: mydb
```

5.1.3 altiStatusDBVersion MIB(3)

5.1.3.1 OID

1.3.6.1.4.1.17180.3.1.1.3

5.1.3.2 Syntax

DisplayString

5.1.3.3 Max-Access

Read-only

5.1.3.4 Description

altiStatusDBVersion displays the Altibase version.

5.1.3.5 Example

```
$ snmpget -v 2c -c public localhost altiStatusDBVersion.1
ALTBASE-MIB::altiStatusDBVersion.1 = STRING: 6.3.1.2.7
$ snmpwalk -v 2c -c public localhost altiStatusDBVersion
ALTBASE-MIB::altiStatusDBVersion.1 = STRING: 6.3.1.2.7
ALTBASE-MIB::altiStatusDBVersion.2 = STRING: 7.1.1.0.0
```

5.1.4 altiStatusRunningTime MIB(4)

5.1.4.1 OID

1.3.6.1.4.1.17180.3.1.1.4

5.1.4.2 Syntax

DisplayString

5.1.4.3 Max-Access

Read-only

5.1.4.4 Description

altiStatusRunningTime displays the run time of the Altibase process. The run time consists of days, hours, minutes, and seconds.

5.1.4.5 Example

```
$ snmpwalk -v 2c -c public localhost altiStatusRunningTime.1
ALTBASE-MIB::altiStatusRunningTime.1 = STRING: 00:00:14
$ snmpwalk -v 2c -c public localhost altiStatusRunningTime
ALTBASE-MIB::altiStatusRunningTime.1 = STRING: 00:00:21
ALTBASE-MIB::altiStatusRunningTime.2 = STRING: 1 days, 03:12:56
```

5.1.5 altiStatusProcessID MIB(5)

5.1.5.1 OID

1.3.6.1.4.1.17180.3.1.1.5

5.1.5.2 Syntax

DisplayString

5.1.5.3 Max-Access

Read-only

5.1.5.4 Description

altiStatusProcessID displays the Altibase process ID.

5.1.5.5 Example

```
$ snmpget -v 2c -c public localhost altiStatusProcessID.1
ALTBASE-MIB::altiStatusProcessID.1 = STRING: 23201
$ snmpwalk -v 2c -c public localhost altiStatusProcessID
ALTBASE-MIB::altiStatusProcessID.1 = STRING: 23201
ALTBASE-MIB::altiStatusProcessID.2 = STRING: 23343
```

5.1.6 altiStatusSessionCount MIB(6)

5.1.6.1 OID

1.3.6.1.4.1.17180.3.1.1.6

5.1.6.2 Syntax

DisplayString

5.1.6.3 Max-Access

Read-only

5.1.6.4 Description

altiStatusSessionCount displays the number of Altibase sessions. This is equal to the number of clients currently connected to Altibase.

5.1.6.5 Example

```
$ snmpget -v 2c -c public localhost altiStatusSessionCount.1
ALTBASE-MIB::altiStatusSessionCount.1 = STRING: 10
$ snmpwalk -v 2c -c public localhost altiStatusSessionCount
ALTBASE-MIB::altiStatusSessionCount.1 = STRING: 10
ALTBASE-MIB::altiStatusSessionCount.2 = STRING: 7
```

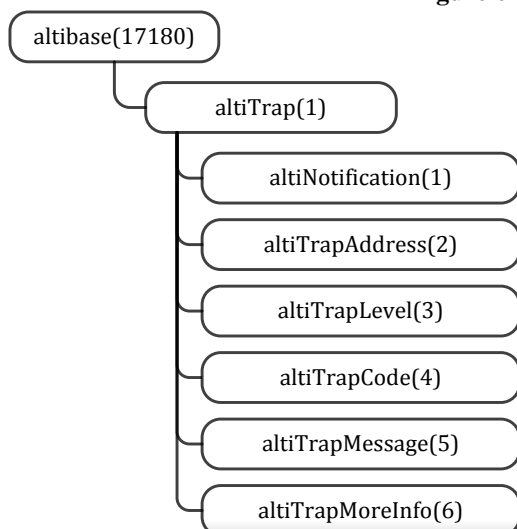

6. Traps

This chapter discusses OIDs sent to the manager using traps when significant events occur in Altibase.

6.1 altiTrap

altiTrap is a management information base (MIB) that shows the OIDs to be sent using traps.

Figure 6-1 altiTrap MIB



altiTrap MIB uses the trap altiTrap(1) under altibase(17180) to define the OIDs to be sent to the manager. These OIDs define information such as the port number, level, trap code, message, etc.

6.1.1 altiNotification MIB(1)

6.1.1.1 OID

1.3.6.1.4.1.17180.1.1

6.1.1.2 Syntax

OBJECT { altiTrapAddress, altiTrapLevel, altiTrapCode, altiTrapMessage, altiTrapMoreInfo }

6.1.1.3 Description

altiNotification is an object type (notification) that contains 5 MIBs and is used to send a trap.

6.1.1.4 Example

```
# snmptrapd -f -P
2014-10-24 13:30:46 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1017350) 2:49:33.50
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 3
ALTIBASE-MIB::altiTrapCode = STRING: 10000001
```

ALTIBASE-MIB::altiTrapMessage = STRING: Altibase is running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING:

6.1.2 altiTrapAddress MIB(2)

6.1.2.1 OID

1.3.6.1.4.1.17180.2.1.2

6.1.2.2 Syntax

DisplayString

6.1.2.3 Description

altiTrapAddress displays the Altibase port number and is used to identify on which Altibase the trap was raised.

6.1.3 altiTrapLevel(3)

6.1.3.1 OID

1.3.6.1.4.1.17180.1.3

6.1.3.2 Syntax

DisplayString

6.1.3.3 Description

altiTrapLevel displays the trap priority. Each level means the following:

- 1: This is a very important and urgent event.
- 2: This is a major event.
- 3: This is a common event.

6.1.4 altiTrapCode(4)

6.1.4.1 OID

1.3.6.1.4.1.17180.1.4

6.1.4.2 Syntax

DisplayString

6.1.4.3 Description

Codes are used to distinguish traps in Altibase. Trap codes are further discussed in [Trap Codes](#).

6.1.5 altiTrapMessage(5)

6.1.5.1 OID

1.3.6.1.4.1.17180.1.5

6.1.5.2 Syntax

DisplayString

6.1.5.3 Description

altiTrapMessage displays a description of the trap that was raised in Altibase.

6.1.6 altiTrapMoreInfo(6)

6.1.6.1 OID

1.3.6.1.4.1.17180.1.6

6.1.6.2 Syntax

DisplayString

6.1.6.3 Description

altiTrapMoreInfo displays additional information about traps raised in Altibase.

6.2 Trap Codes

This section discusses trap codes (`altiTrapCode`) and trap levels (`altiTrapLevel`) of Altibase.

6.2.1 Altibase Running Status

6.2.1.1 Code

10000001

6.2.1.2 Level

3

6.2.1.3 Description

Altibase Running Status displays that Altibase is currently running.

6.2.1.4 Example

```
# snmptrapd -f -P
2014-10-24 13:30:46 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1017350) 2:49:33.50
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 3
ALTIBASE-MIB::altiTrapCode = STRING: 10000001
ALTIBASE-MIB::altiTrapMessage = STRING: Altibase is running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING:
```

6.2.2 Altibase UnRunning Status

6.2.2.1 Code

10000002

6.2.2.2 Level

3

6.2.2.3 Description

Altibase UnRunning Status displays that Altibase is currently not running.

6.2.2.4 Example

```
# snmptrapd -f -P
2014-10-24 13:33:38 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1034562) 2:52:25.62
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 1
ALTIBASE-MIB::altiTrapCode = STRING: 10000002
ALTIBASE-MIB::altiTrapMessage = STRING: Altibase is not running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING:
```

6.2.3 Altibase Subagent Running Status

6.2.3.1 Code

```
10000003
```

6.2.3.2 Level

```
3
```

6.2.3.3 Description

Altibase Subagent Running Status displays that Altibase's subagent (altisnmpd) is running.

6.2.3.4 Example

```
# snmptrapd -f -P
2014-10-24 13:40:24 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1075187) 2:59:11.87
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 22082
ALTIBASE-MIB::altiTrapLevel = STRING: 3
ALTIBASE-MIB::altiTrapCode = STRING: 10000003
ALTIBASE-MIB::altiTrapMessage = STRING: Altisnmpd is running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING: coldstartALTIBASE-MIB::altiTrapCode
= STRING: 10000002
ALTIBASE-MIB::altiTrapMessage = STRING: Altibase is not running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING:
```

6.2.4 Altibase Subagent UnRunning Status

6.2.4.1 Code

```
10000004
```

6.2.4.2 Level

```
3
```

6.2.4.3 Description

Altibase Subagent UnRunning Status displays that Altibase's subagent (altisnmpd) is not running.

6.2.4.4 Example

```
# snmptrapd -f -P
2014-10-24 13:40:23 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1075030) 2:59:10.30
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 21947
ALTIBASE-MIB::altiTrapLevel = STRING: 1
ALTIBASE-MIB::altiTrapCode = STRING: 10000004
ALTIBASE-MIB::altiTrapMessage = STRING: Altisnmpd is not running.
ALTIBASE-MIB::altiTrapMoreInfo = STRING: nsNotifyShutdown
```

6.2.5 Session Query Timeout

6.2.5.1 Code

10000101

6.2.5.2 Level

2

6.2.5.3 Description

Session Query Timeout displays that altiPropertyAlarmQueryTimeout is 1 and a query timeout has occurred in an Altibase session.

6.2.5.4 Example

```
# snmptrapd -f -P
2014-10-24 14:00:01 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1192924) 3:18:49.24
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 2
ALTIBASE-MIB::altiTrapCode = STRING: 10000101
ALTIBASE-MIB::altiTrapMessage = STRING: [Notify : Query Timeout] Session
Closed by Server : Session ID = 2
ALTIBASE-MIB::altiTrapMoreInfo = STRING: Please check altibase_boot.log
```

6.2.6 Session Fetch Timeout

6.2.6.1 Code

10000102

6.2.6.2 Level

2

6.2.6.3 Description

Session Fetch Timeout displays that altiPropertyAlarmFetchTimeout is 1 and a fetch timeout has occurred in an Altibase session.

6.2.6.4 Example

```
# snmptrapd -f -P
2014-10-24 14:00:01 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1192924) 3:18:49.24
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 2
ALTIBASE-MIB::altiTrapCode = STRING: 10000102
ALTIBASE-MIB::altiTrapMessage = STRING: [Notify : Fetch Timeout] Session
Closed by Server : Session ID = 2
ALTIBASE-MIB::altiTrapMoreInfo = STRING: Please check altibase_boot.log
```

6.2.7 Session Utrans Timeout

6.2.7.1 Code

10000103

6.2.7.2 Level

2

6.2.7.3 Description

Session Utrans Timeout displays that altiPropertyAlarmUtransTimeout is 1 and a utrans timeout has occurred in an Altibase session.

6.2.7.4 Example

```
# snmptrapd -f -P
2014-10-24 14:12:01 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1192924) 3:18:49.24
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTIBASE-MIB::altiTrapAddress = STRING: 52473
ALTIBASE-MIB::altiTrapLevel = STRING: 2
ALTIBASE-MIB::altiTrapCode = STRING: 10000103
ALTIBASE-MIB::altiTrapMessage = STRING: [Notify : Utrans Timeout] Session
Closed by Server : Session ID = 2
ALTIBASE-MIB::altiTrapMoreInfo = STRING: Please check altibase_boot.log
```

6.2.8 Too Many Continuous Query Failure

6.2.8.1 Code

10000201

6.2.8.2 Level

2

6.2.8.3 Description

A trap is raised when query execution continuously fails for as many times as altiSessionFailureCount.

6.2.8.4 Example

```
# snmptrapd -f -P
2014-10-24 14:12:01 localhost [127.0.0.1]:
SNMPv2-MIB::sysUpTime.0 = Timeticks: (1192924) 3:18:49.24
SNMPv2-MIB::snmpTrapOID.0 = OID: SNMPv2-SMI::private
ALTBASE-MIB::altiTrapAddress = STRING: 52473
ALTBASE-MIB::altiTrapLevel = STRING: 2
ALTBASE-MIB::altiTrapCode = STRING: 10000103
ALTBASE-MIB::altiTrapMessage = STRING: [Notify : Session Failure] Session
Failed Continuously : Session ID = 2, Count = 3
ALTBASE-MIB::altiTrapMoreInfo = STRING: Please check altibase_boot.log
```


Appendix A. ALTIBASE-MIB

IB

This appendix provides the ALTIBASE-MIB.txt file.

ALTIBASE-MIB.txt

```
ALTIBASE-MIB DEFINITIONS ::= BEGIN

IMPORTS
OBJECT-TYPE, NOTIFICATION-TYPE, MODULE-IDENTITY, enterprises
FROM SNMPv2-SMI
DisplayString
FROM SNMPv2-TC;

altibase MODULE-IDENTITY
LAST-UPDATED "201410310000Z"
ORGANIZATION "ALTIBASE R&D Division"
CONTACT-INFO "Altibase Corporation
10F, DaerungPost Tower2, 182-13 Guro-dong,
Guro-gu, Seoul
150-790,
Korea
TEL. +82-2-2082-1000
http://support.altibase.com"
DESCRIPTION "This MIB module defines Altibase MIB."
::= { enterprises 17180 }

altiTrap OBJECT IDENTIFIER ::= { altibase 1 }

altiNotification NOTIFICATION-TYPE
OBJECTS      { altiTrapAddress, altiTrapLevel, altiTrapCode,
altiTrapMessage, altiTrapMoreInfo }
STATUS      current
DESCRIPTION "altiNotification"
::= { altiTrap 1 }

altiTrapAddress OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "The Altibase port number in use."
::= { altiTrap 2 }

altiTrapLevel OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "Trap Level = 1|2|3"
::= { altiTrap 3 }

altiTrapCode OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
```

```

STATUS      current
DESCRIPTION "Trap Code."
 ::= { altiTrap 4 }

altiTrapMessage OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "The trap message."
 ::= { altiTrap 5 }

altiTrapMoreInfo OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "The reserved field"
 ::= { altiTrap 6 }

altiPropertyTable OBJECT-TYPE
SYNTAX      SEQUENCE OF AltiPropertyEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION "altiPropertyTable"
 ::= { altibase 2 }

altiPropertyEntry OBJECT-TYPE
SYNTAX      AltiPropertyEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION "altiPropertyEntry"
INDEX       { altiPropertyIndex }
 ::= { altiPropertyTable 1 }

altiPropertyEntry ::= SEQUENCE {
altiPropertyIndex          INTEGER,
altiPropertyAlarmQueryTimeout DisplayString,
altiPropertyAlarmUtransTimeout DisplayString,
altiPropertyAlarmFetchTimeout DisplayString,
altiPropertyAlarmSessionFailureCount DisplayString,
}

altiPropertyIndex OBJECT-TYPE
SYNTAX      INTEGER
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "altiPropertyIndex"
 ::= { altiPropertyEntry 1 }

altiPropertyAlarmQueryTimeout OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION "altiPropertyAlarmQueryTimeout 0|1
Zero : Do nothing.
One  : Send the trap when a query timeout occurs in a session."
 ::= { altiPropertyEntry 2 }

altiPropertyAlarmUtransTimeout OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION "altiPropertyAlarmUtransTimeout 0|1
Zero : Do nothing.
One  : Send the trap when a utrans timeout occurs in a session."
 ::= { altiPropertyEntry 3 }

```



```

altiPropertyAlarmFetchTimeout OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION "altiPropertyAlarmFetchTimeout 0|1
Zero : Do nothing.
One  : Send the trap when a fetch timeout occurs in a session. "
 ::= { altiPropertyEntry 4 }

altiPropertyAlarmSessionFailureCount OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION "altiPropertyAlarmSessionFailureCount [0..4294967295]
Zero       : Do nothing.
Non-zero   : Send the trap when query execution continues to fail for as many
times as altiPropertyAlarmSessionFailureCount."
 ::= { altiPropertyEntry 5 }

altiStatus OBJECT IDENTIFIER ::= { altibase 3 }

altiStatusTable OBJECT-TYPE
SYNTAX      SEQUENCE OF altiStatusEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION "altiStatusTable"
 ::= { altiStatus 1 }
altiStatusEntry OBJECT-TYPE
SYNTAX      altiStatusEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION "altiStatusEntry"
INDEX       { altiStatusIndex }
 ::= { altiStatusTable 1 }

altiStatusEntry ::= SEQUENCE {
altiStatusIndex      INTEGER,
altiStatusDBName     DisplayString,
altiStatusDBVersion  DisplayString,
altiStatusRunningTime DisplayString,
altiStatusProcessID  DisplayString,
altiStatusSessionCount DisplayString
}

altiStatusIndex OBJECT-TYPE
SYNTAX      INTEGER
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "altiStatusIndex"
 ::= { altiStatusEntry 1 }
altiStatusDBName OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "The Altibase database name."
 ::= { altiStatusEntry 2 }

altiStatusDBVersion OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "The Altibase version."
 ::= { altiStatusEntry 3 }

altiStatusRunningTime OBJECT-TYPE

```

```
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "altiStatusRunningTime = [dd days, HH:MM:SS
The Altibase run time."
::= { altiStatusEntry 4 }
```

```
altiStatusProcessID OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION "altiStatusProcessID = PID
Process ID of Altibase."
::= { altiStatusEntry 5 }
```

```
altiStatusSessionCount OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION " The number of currently open Altibase sessions."
::= { altiStatusEntry 6 }
```

```
END
```

Appendix B. Troubleshooting

FAQ

altisnmpd Related FAQ

Q. When I run `altisnmpd`, I get the error message: "Error: Failed to connect to the agentx master agent: Unknown host (Connection refused)".

A. Verify that the `snmpd` daemon is running. If so, use the `altisnmpd -x` option to check whether the IP and port are correct.

Q. When I execute the `snmpget` and `snmpwalk` commands, I get the error message: "No Such Object available on this agent at this OID".

A. This error can occur if `altisnmpd` and `snmpd` are not communicating correctly. Verify that `altisnmpd` is running. If the user restarted `snmpd`, `altisnmpd` must also be restarted.

Q. When I execute the `snmpset` command, I get the error message: "Error in packet. Reason: notWritable (that object does not support modification)...".

A. This error can occur if the value for a read-only object has been set. If it is a read-write object, this is a network problem. In this case, refer to the manual.

Q. When I execute the `snmpget` and `snmpwalk` commands, I get the error message: "No Such Instance currently exists at this OID".

A. This checks whether the name for an OID or object is saved correctly. The user can view Altibase MIB information with the `snmpwalk` command.

e.g.> `snmpwalk -v 2c -c private IP:PORT altibase`

Also, verify that Altibase is running.

Q. When I execute the `snmpget` and `snmpwalk` commands, I get the error message : "Unknown Object Identifier (Sub-id not found: (top) -> xxx)".

A. Verify that the OID name or the object name has been properly specified. If the `ALTIBASE-MIB.txt` file cannot be loaded, check whether the file exists in `$MIBDIRS` and then

check that \$MIBS is set to ALL.

Q. When I execute the `snmpwalk` command, the entire ALTIBASE MIB is not output.

```
e.g.> snmpwalk -v 2c -c private IP:PORT altibase
ALTIBASE-MIB::altiPropertyIndex.1 = INTEGER: 1
ALTIBASE-MIB::altiStatusIndex.1 = INTEGER: 1
```

A. Verify that Altibase is running.

Index

A

Altibase Running Status.....	49
Altibase Subagent Running Status.....	50
Altibase Subagent UnRunning Status.....	50
Altibase UnRunning Status.....	49
ALTIBASE-MIB	15
ALTIBASE-MIB.txt.....	55
altiNotification MIB(1).....	46
altiPropertyAlarmFetchTimeout MIB(3).....	35
altiPropertyAlarmQueryTimeout MIB(2)	35
altiPropertyAlarmSessionFailureCount MIB(5)	37
altiPropertyAlarmUtransTimeout MIB(4).....	36
altiPropertyIndex MIB(1).....	34
altiPropertyTable.....	34
altiPropertyTable MIB.....	16
altisnmpd	26
altiStatus	40
altiStatus MIB.....	16
altiStatusDBName(2).....	41
altiStatusDBVersion MIB(3).....	41
altiStatusIndex MIB(1)	40
altiStatusProcessID MIB(5).....	42
altiStatusRunningTime MIB(4).....	42
altiStatusSessionCount MIB(6).....	43
altiTrap.....	46
altiTrap MIB	16
altiTrapAddress MIB(2)	47
altiTrapCode(4)	47
altiTrapLevel(3).....	47

altiTrapMessage(5).....	48
altiTrapMoreInfo(6).....	48

I

Internet Assigned Number Authority	14
--	----

M

Management Information Base	14
-----------------------------------	----

N

Network Management System.....	14
--------------------------------	----

S

Session Fetch Timeout	51
Session Query Timeout.....	51
Session Utrans Timeout.....	52
Simple Network Management Protocol	14
SNMP GET	32
SNMP SET	32
SNMP TRAP	32
SNMP WAK	32
snmpd.....	24
snmptrapd	25

T

Too Many Continuous Query Failure	53
Trap Codes	49