

READINGA MIB (uses SMIv1)



```

RFC1213-MIB DEFINITIONS ::= BEGIN
IMPORTS
    mgmt, NetworkAddress, IPAddress, Counter, Gauge,
    TimeTicks
        FROM RFC1155-SMI
    OBJECT-TYPE
        FROM RFC 1212;
mib-2 OBJECT IDENTIFIER ::= { mgmt 1 }

-- groups in MIB-II

system OBJECT IDENTIFIER ::= { mib-2 1 }
interfaces OBJECT IDENTIFIER ::= { mib-2 2 }
at OBJECT IDENTIFIER ::= { mib-2 3 }
ip OBJECT IDENTIFIER ::= { mib-2 4 }
icmp OBJECT IDENTIFIER ::= { mib-2 5 }
tcp OBJECT IDENTIFIER ::= { mib-2 6 }
udp OBJECT IDENTIFIER ::= { mib-2 7 }
egp OBJECT IDENTIFIER ::= { mib-2 8 }
transmission OBJECT IDENTIFIER ::= { mib-2 10 }
snmp OBJECT IDENTIFIER ::= { mib-2 11 }

-- the Interfaces table

-- The Interfaces table contains information on the entity's
-- interfaces. Each interface is thought of as being
-- attached to a 'subnetwork.' Note that this term should
-- not be confused with 'subnet,' which refers to an
-- addressing-partitioning scheme used in the Internet
-- suite of protocols.

ifTable OBJECT-TYPE
    SYNTAX SEQUENCE OF IfEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "A list of interface entries. The number of entries is
        given by the value of ifNumber."
    ::= { interfaces 2 }

ifEntry OBJECT-TYPE
    SYNTAX IfEntry
    ACCESS not-accessible
    STATUS mandatory
    DESCRIPTION
        "An interface entry containing objects at the subnetwork
        layer and below for a particular interface."
    INDEX { ifIndex }
    ::= { ifTable 1 }

IfEntry ::=
    SEQUENCE {
        ifIndex
            INTEGER,
        ifDescr
            DisplayString,
        ifType
            INTEGER,
        ifMtu
            INTEGER,
        ifSpeed
            Gauge,
        ifPhysAddress
            PhysAddress,
        ifAdminStatus
            INTEGER,
        ifOperStatus
            INTEGER,
        ifLastChange
            TimeTicks,
        ifInOctets
            Counter,
        ifInUcastPkts
            Counter,
        ifInNUcastPkts
            Counter,
        ifInDiscards
            Counter,
        ifInErrors
            Counter,
        ifInUnknownProtos
            Counter,
        ifOutOctets
            Counter,
        ifOutUcastPkts
            Counter,
        ifOutNUcastPkts
            Counter,
        ifOutDiscards
            Counter,
        ifOutErrors
            Counter,
        ifOutQLen
            Gauge,
        ifSpecific
            OBJECT IDENTIFIER
    }

ifIndex OBJECT-TYPE
    SYNTAX INTEGER
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "A unique value for each interface. Its value ranges
        between 1 and the value of ifNumber. The value for
        each interface must remain constant at least from one
        reinitialization of the entity's network management
        system to the next reinitialization."
    ::= { ifEntry 1 }

ifDescr OBJECT-TYPE
    SYNTAX DisplayString (SIZE (0..255))
    ACCESS read-only
    STATUS mandatory
    DESCRIPTION
        "A textual string containing information about the
        interface. This string should include the name of
        the manufacturer, the product name, and the version
        of the hardware interface."
    ::= { ifEntry 2 }
    
```

OIDs are defined here

Object definitions follow on from this point (all of them have the format of ifTable shown to the right)

Imports these data types from MIB RFC1155-SMI

Linkage section. Lets you import OIDs from other MIBs using the IMPORTS keyword.

RFC 1212 is the concise MIB definition. It defines how MIBs are written.

Shows name of MIB and its structure within the SNMP subtree
This is mib-2
mgmt = 1.3.6.1.2
mib-2 = { mgmt 1 } = 1.3.6.1.2.1
interfaces group = 1.3.6.1.2.1.2

These are groups under mib-2

Represents a table of network interfaces on a managed device.

SEQUENCE OF ... meaning it contains columns defined in IfEntry

1.3.6.1.2.1.2.2
or
iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable

The syntax is IfEntry indicating that it represents a row of the table.

1.3.6.1.2.1.2.2.1
or
iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable.ifEntry

A unique key used to define a single row in the table.

A sequence is a list on columnar objects. This represents each column in the table that can have multiple rows.

Each of these objects is a column in the table. The rows are represented by ifEntry above (this is because the SYNTAX of ifEntry is IfEntry - note the difference the case of the first letter)

Entry	Defintion
<name>	Name of Object. If it is an object is it mixed case starting with lowercase. If it is a sequence it is mixed case starting with an uppercase.
SYNTAX	Datatype used
ACCESS	RO - Read Only. See the value but not change it. RW - Read Write WO - Write Only NA - Not accessible, meaning you cannot query an agent for this object's value.
STATUS	Mandatory - Must implement to comply with the standard (in this case the mib 2 standard) Optional Obselete
DESCRIPTION	Textual Description
::=	OID

We can see its value but we cannot change it

1.3.6.1.2.1.2.2.1.1
or
iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifIndex

Textual description for that interface represented for the particular row.

1.3.6.1.2.1.2.2.1.2
or
iso.org.dod.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifDescr

PLEASE NOTE: In a normal MIB there would be definitions for all the objects. They are not shown here for the sake of brevity.

Denotes the end of a MIB

END