

Instance IDs in SNMP — why are they there and what do they mean?

In SNMP, there are two types of objects: scalar and columnar.

"Scalar" objects are objects that are not in a table such as sysDescr, sysName, etc. They must have instance ID .0 in get/set requests and responses.

"Columnar" objects are objects that are defined in a table such as ifType, ifDescr, etc. They must have meaningful instance IDs (defined by index part of the table) in get/set requests and responses. A tool may add .0 for scalar objects but it wouldn't know what instance IDs to "add" for columnar objects when issuing GETs.

Descriptor: IF-MIB:ifTable OBJECT-TYPE
 Object-ID : 1.3.6.1.2.1.2.2
 Index : IF-MIB:ifIndex **Columnar Objects**
 Identity: Standard MIB (rfc2863-IF-MIB)

No.	Object	OID	Syntax	Access
1	ifIndex	1.3.6.1.2.1.2.2.1.1	IF-MIB:InterfaceIndex	rea
2	ifDescr	1.3.6.1.2.1.2.2.1.2	SNMPv2-TC:DisplayString	rea
3	ifType	1.3.6.1.2.1.2.2.1.3	IANAifType-MIB:IANAifType	rea
4	ifMtu	1.3.6.1.2.1.2.2.1.4	Integer32	rea
5	ifSpeed	1.3.6.1.2.1.2.2.1.5	Gauge32	rea
6	ifPhysAddress	1.3.6.1.2.1.2.2.1.6	SNMPv2-TC:PhysAddress	rea
7	ifAdminStatus	1.3.6.1.2.1.2.2.1.7	INTEGER	rea
8	ifOperStatus	1.3.6.1.2.1.2.2.1.8	INTEGER	rea
9	ifLastChange	1.3.6.1.2.1.2.2.1.9	TimeTicks	rea
10	ifInOctets	1.3.6.1.2.1.2.2.1.10	Counter32	rea
11	ifInUcastPkts	1.3.6.1.2.1.2.2.1.11	Counter32	rea

Descriptor: SNMPv2-MIB:sysDescr OBJECT-TYPE
 Object-ID : 1.3.6.1.2.1.1
 Syntax : SNMPv2-TC:DisplayString (0..255) (OctetString)
 Access : read-only
 Status : current **Scalar Object**
 Index : N/A
 Default Value : N/A
 Parent : iso.org.dod.internet.mgmt.mib-2.system
 Identity : Standard MIB (rfc3418-SNMPv2-MIB)

SilverCreek relies on the end user to add .0 or other more complicated instance IDs when issuing get/set request. As a protocol test tool, this approach is considered better to the general users of SilverCreek as they must understand what they are doing when testing SNMP using SilverCreek. As an example, if you want to send SNMP get/set requests in command line you must know this concept.

Want to Learn More?



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