***ASSIGNMENT 3***

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**ASSIGNMENT 4**

**AIM**- List all parameters and objects in MIB data set. (RMON) & (SNMP)

**THEORY-**

**MIB**

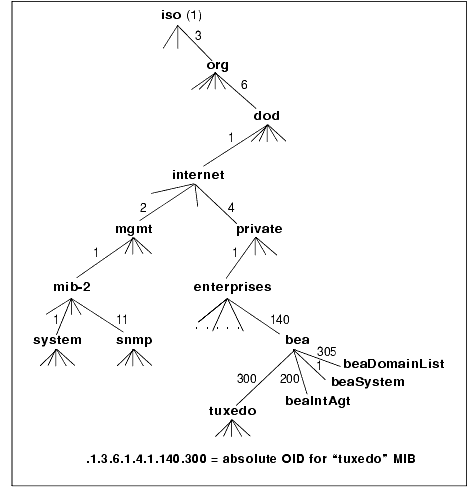
A management information base (MIB) is a hierarchical virtual database of network (or other entity) objects describing a device being monitored by a network management system (NMS). An MIB is used by Simple Network Management Protocol (SNMP) and remote monitoring 1 (RMON1).  
  
The MIB database of objects is intended to reference a complete collection of management information on an entity, such as a computer network; however, it is often used to refer to a subset of the database and is often called an MIB module.

Each MIB is addressed or identified using an object identifier (OID), which is often a device’s setting or status. The OID uniquely identifies a managed object in the MIB hierarchy. Each managed object is made up of one or more variables called object instances. These, too, are identified by OIDs.  
  
To remove ambiguous meanings and repair data defects, MIBs are updated, but these changes must be in conformance with Section 10, or RFC 2578, a specific recommendation for comment. The protocols SNMP and RMON1 both use MIB. SNMP gathers data from a single type of MIB; RMON 1 gathers data from nine additional types of MIBs that provide a richer set of data. But the objects (devices such as routers, switches and hubs) must be designed to use the data.  
  
There are two types of managed objects, scalar objects and tabular objects. These define a single object instance or multiple related object instances grouped in MIB tables, respectively.

**MIB Object Identifiers**

Each object in the MIB has an object identifier (OID), which the management station uses to request the object's value from the agent. An OID is a sequence of integers that uniquely identifies a managed object by defining a path to that object through a tree-like structure called the OID tree or registration tree. When an SNMP agent needs to access a specific managed object, it traverses the OID tree to find the object. The MIB object identifier hierarchy and format is shown in the following figure.

**Figure 1-2 SNMP MIB Object Identifier Hierarchy and Format**



In this hierarchy, each BEA private MIB object that the BEA SNMP Agent software manages has a unique object identifier. A prefix of .1.3.6.1.4.1.140 points to the objects in the BEA private MIB for the BEA SNMP Agent software.

**The SNMP MIB for BEA Tuxedo 8.1 consists of the following component MIBs:**

* *Core MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for controlling the operation and configuration of a Tuxedo application. This MIB contains the main information groups for Tuxedo applications, including domains, machines, queues, servers, routing, clients, and services. For a detailed description, see [Core MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/2coremib.htm" \l "1666014).
* *Domains MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for describing the interaction between Tuxedo *domains* (Tuxedo business applications). For a detailed description, see [Domains MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/3dommib.htm" \l "1441391).
* *BEA Domain List MIB*—OID prefix: .1.3.6.1.4.1.140.305 (or beaDomainList)—Contains the MIB objects for identifying and describing all Tuxedo domains currently being monitored on a particular managed node (machine). For a detailed description, see [BEA Domain List MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/4domlst.htm" \l "311050).
* *CORBA Interface MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for managing Tuxedo 8.0 or later CORBA features. For a detailed description, see [CORBA Interface MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/5wlemib.htm" \l "428828).
* *Access Control List MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for setting and controlling the security options for the Tuxedo application. For a detailed description, see [Access Control List MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/6aclmib.htm" \l "269365).
* *Workstation MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for specifying information about Tuxedo client workstations including workstation listeners and handlers. For a detailed description, see [Workstation MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/7wksmib.htm" \l "218025).
* *Application Queue MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for managing access to Tuxedo application queues. The groups include objects for managing queue spaces, queues, messages, and transactions. For a detailed description, see [Application Queue MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/8appqmib.htm" \l "374214).
* *EventBroker MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for describing current event subscriptions, defining new subscriptions, or invalidating subscriptions. For a detailed description, see [EventBroker MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/9evtbrok.htm" \l "277236).
* *Traps MIB*—OID prefix: .1.3.6.1.4.1.140.300 (or tuxedo)—Contains the MIB objects for specifying the trap notifications generated by the SNMP agent for BEA SNMP Agent, and for specifying the objects passed in the variable bindings for the traps. For a detailed description, see [Traps MIB](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpmref/10tuxtrp.htm" \l "342528).
* *BEA System MIB*—OID prefix: .1.3.6.1.4.1.140.1 (or beaSystem)—Contains the MIB objects for passing the trap notifications generated by the BEA SNMP Agent Integrator polling rules. As an example, a rule-action might specify that when the value of the polled object at OID .1.3.6.1.4.1.140.1.0 is greater than 20, send a trap with a specific trap ID of 200; when the object's value becomes less than 20, send a trap with a specific Trap ID of 300. For a description of the BEA SNMP Agent Integrator polling feature, see ["Using the BEA SNMP Agent Integrator for Polling"](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpadmin/7polling.htm) in the *BEA Tuxedo SNMP Agent Administration Guide*.
* *BEA Agent Integrator MIB*—OID prefix: .1.3.6.1.4.1.140.200 (or beaIntAgt)—Contains the MIB objects for creating user-defined traps that are generated by the BEA SNMP Agent Integrator according to user-defined polling rules. You can configure the BEA SNMP Agent Integrator running on the managed node to perform local polling and generate SNMP trap notifications, or execute a system command when certain conditions are met. Individual rules, stored as MIB objects, can be activated and deactivated by the management station. For a description of polling rules, see ["Configuration Files"](https://docs.oracle.com/cd/E13203_01/tuxedo/tux81/snmpadmin/9cnfgfl.htm) in the *BEA Tuxedo SNMP Agent Administration Guide*.

**CONCLUSION**-

Hence we have studied about the MIB types and listed out groups, parameters

and objects related to Remote Monitoring MIB (RMON) in detail.