

# **Feature-based Private MIB**

**Ethernet Switch**

**ZyNOS 4.10**

## **Support Notes**

**Version 4.10 Sep 2013**



## Purpose

A management information database (MIB) is a virtual database used for managing the entities in a communications network. Most often associated with the Simple Network Management Protocol (SNMP). Our switches communicate with SNMP services by using specified OID and parameters. However, there are three limitations, as discussed below.

1. It is difficult to support all of the feature that network administrator want to use, because our MIB file is designed by model to include and support standard features.
2. The same features are defined by different OIDs on some models.
3. It is inconvenient for the network administrator to configure the same feature on various kinds of models because the corresponding MIB file to access the specified switch must be loaded.

Therefore, we have developed a new architecture on the MIB files to resolve the above problems. The following are enhancements on the MIB files.

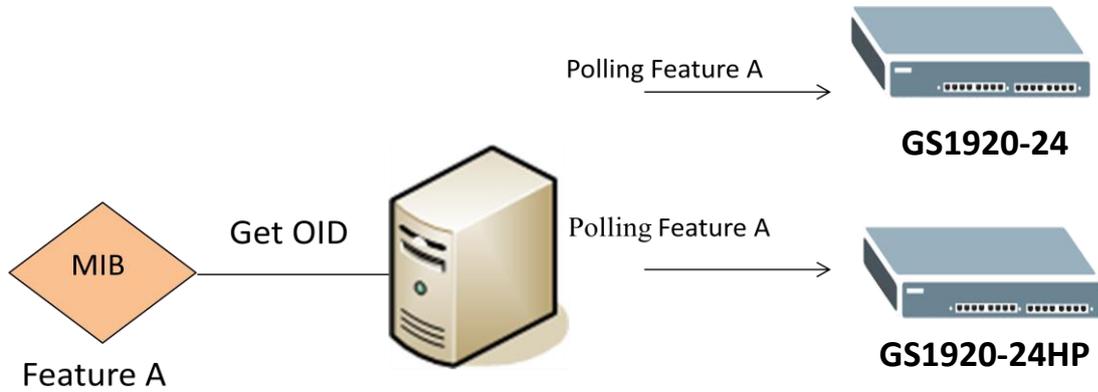
1. Compare some latest MIB files and combine it to be a big MIB file.
2. Define some rules to classify and rename these entries.
3. Regroup these features and divide the big file by feature.
4. Set specified common OIDs for each feature.

## Features

In the original architecture, the network administrator must loads the corresponding MIB file if he wants to access the specified switch using the MIB browser. It is inconvenient to use if the network administrator wants to configure the same feature on various models.

For “Feature-based Private MIB”, we define a common OID for each feature and divide the MIB file by feature. The network administrator only needs to load the feature MIB file that he wants to use, and then use the same MIB file to access all the switches that support the new architecture. In addition, the network administrator can purchase a new ZyXEL switch and access it with the same MIB file.

### Scenario



In this scenario, we install iReasoning MIB browser on the PC and every switch has a different IP address as the management IP address. Follow the steps for VLAN tagging on the switch.

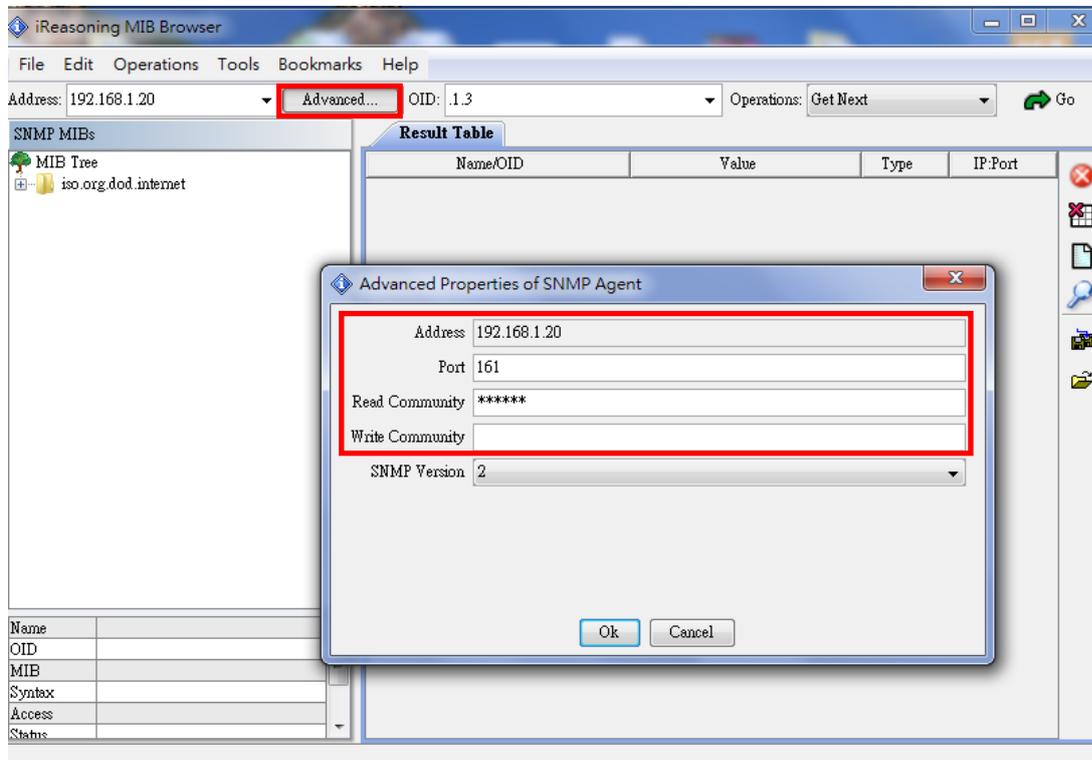
Step 1:

We have two switches with the following IP interfaces:

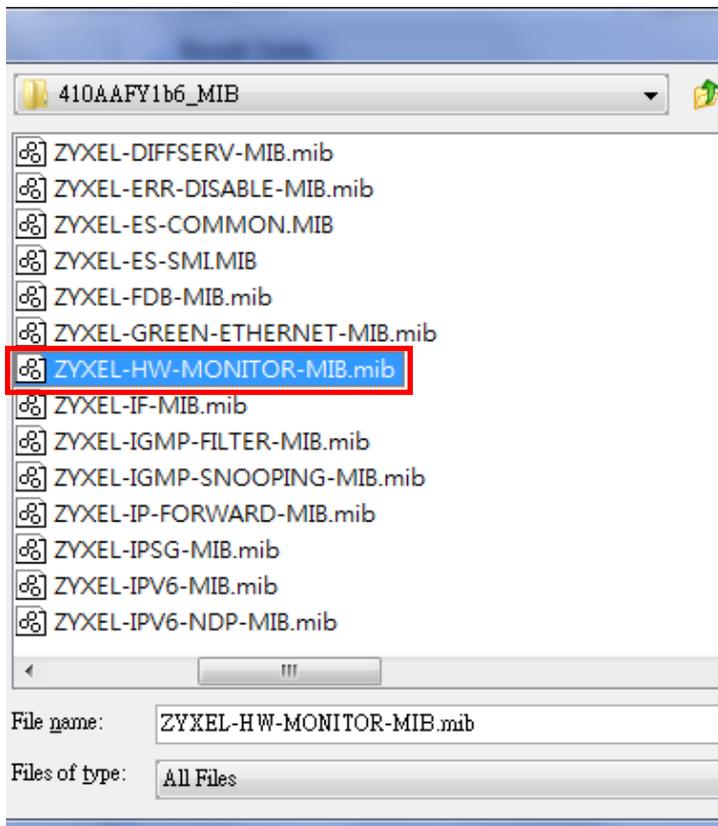
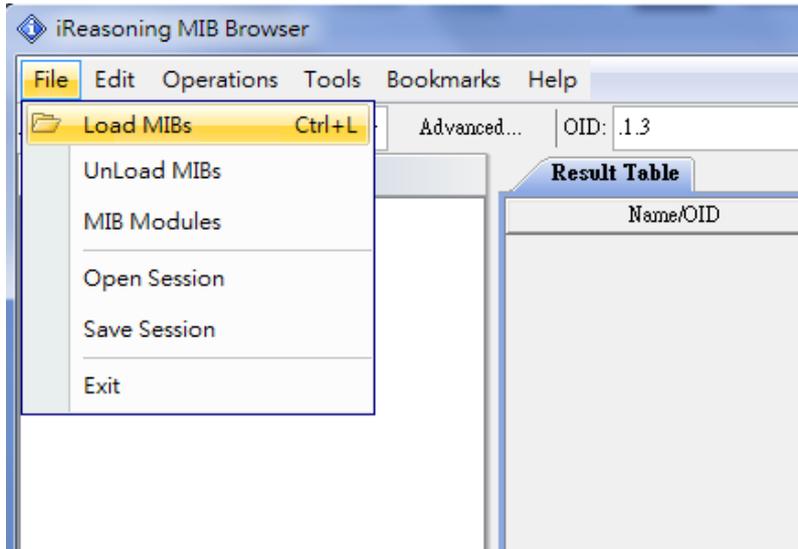
GS1920-24 IP: 192.168.1.20

GS1920-24HP IP: 192.168.1.10

Open iReasoning MIB browser and setup port / community/ device MGMT IP address.

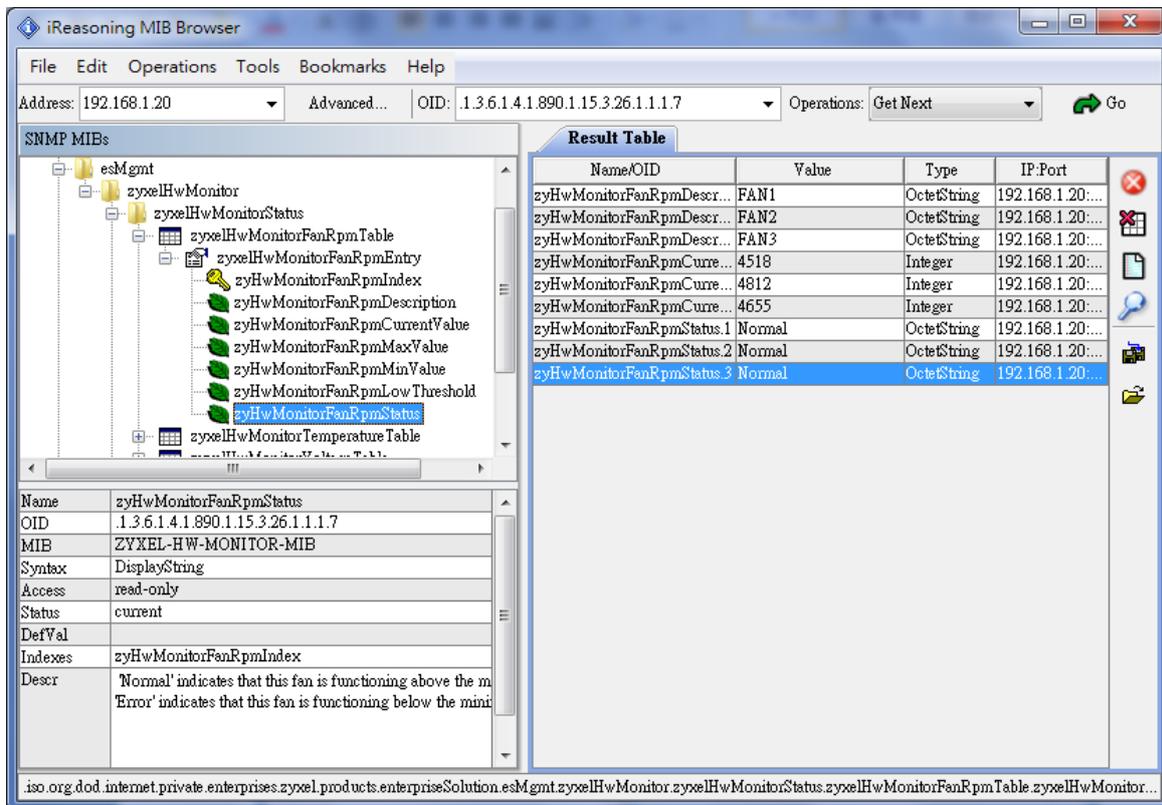
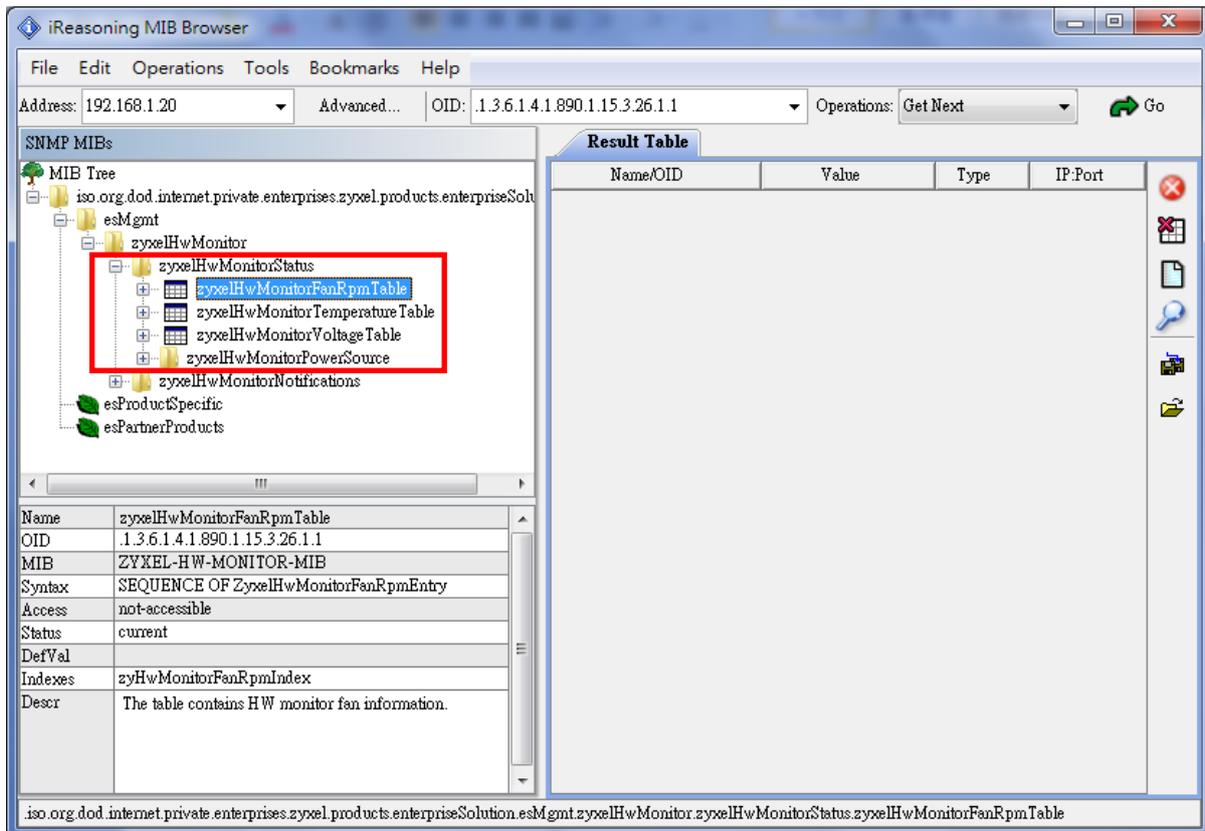


Step 2: Load the specific MIB file (HW Monitor).



Step 3: Then we can see the MIB tree in the left window. Click on **zyxelHwMoniotrStatus** to get values

of every item on the GS1920-24.



The screenshot shows the iReasoning MIB Browser interface. The address is 192.168.1.20 and the OID is .1.3.6.1.4.1.890.1.15.3.26.1.2.1.7. The selected MIB entry is zyHwMonitorTemperatureStatus. The result table displays the following data:

Name/OID	Value	Type	IP-Port
zyHwMonitorTemperatureD...	MAC	OctetString	192.168.1.20...
zyHwMonitorTemperatureD...	CPU	OctetString	192.168.1.20...
zyHwMonitorTemperatureD...	PHY_1	OctetString	192.168.1.20...
zyHwMonitorTemperatureD...	PHY_2	OctetString	192.168.1.20...
zyHwMonitorTemperatureD...	Board_1	OctetString	192.168.1.20...
zyHwMonitorTemperatureD...	Board_2	OctetString	192.168.1.20...
zyHwMonitorTemperatureC...	41	Integer	192.168.1.20...
zyHwMonitorTemperatureC...	42	Integer	192.168.1.20...
zyHwMonitorTemperatureC...	44	Integer	192.168.1.20...
zyHwMonitorTemperatureC...	43	Integer	192.168.1.20...
zyHwMonitorTemperatureC...	42	Integer	192.168.1.20...
zyHwMonitorTemperatureC...	38	Integer	192.168.1.20...
zyHwMonitorTemperatureSt...	NORMAL	OctetString	192.168.1.20...
zyHwMonitorTemperatureSt...	NORMAL	OctetString	192.168.1.20...
zyHwMonitorTemperatureSt...	NORMAL	OctetString	192.168.1.20...
zyHwMonitorTemperatureSt...	NORMAL	OctetString	192.168.1.20...
zyHwMonitorTemperatureSt...	NORMAL	OctetString	192.168.1.20...

Additional details for the selected MIB entry:

- Name: zyHwMonitorTemperatureStatus
- OID: .1.3.6.1.4.1.890.1.15.3.26.1.2.1.7
- MIB: ZYXEL-HW-MONITOR-MIB
- Syntax: DisplayString
- Access: read-only
- Status: current
- DefVal: (empty)
- Indexes: zyHwMonitorTemperatureIndex
- Descr: Normal indicates temperatures below the threshold and T

The screenshot shows the iReasoning MIB Browser interface. The address is 192.168.1.20 and the OID is .1.3.6.1.4.1.890.1.15.3.26.1.3.1.8. The selected MIB entry is zyHwMonitorVoltageStatus. The result table displays the following data:

Name/OID	Value	Type	IP-Port
zyHwMonitorVoltageDescri...	2.5V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	1.8V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	3.3V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	5V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	12V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	1.0V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	0.9V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	3.3V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	1.05V	OctetString	192.168.1.20...
zyHwMonitorVoltageDescri...	1.2V	OctetString	192.168.1.20...
zyHwMonitorVoltageCurre...	2519	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	1810	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	3291	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	5065	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	11906	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	996	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	908	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	3291	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	1054	Integer	192.168.1.20...
zyHwMonitorVoltageCurre...	1218	Integer	192.168.1.20...
zyHwMonitorVoltageStatus.1	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.2	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.3	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.4	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.5	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.6	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.7	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.8	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus.9	Normal	OctetString	192.168.1.20...
zyHwMonitorVoltageStatus...	Normal	OctetString	192.168.1.20...

Additional details for the selected MIB entry:

- Name: zyHwMonitorVoltageStatus
- OID: .1.3.6.1.4.1.890.1.15.3.26.1.3.1.8
- MIB: ZYXEL-HW-MONITOR-MIB
- Syntax: DisplayString
- Access: read-only
- Status: current
- DefVal: (empty)
- Indexes: zyHwMonitorVoltageIndex
- Descr: Normal indicates that the voltage is within an acceptable range at this point; otherwise 'Error' is displayed.

Step 4: After checking the GS1920-24, we changed the IP address and community to check the GS1920-24HP.

