EDS · SNMP TECHNICAL MANUAL

IP addressing

The device has supplied with the DHCP addressing system activated, so the device, once connected to the local area network, the server will be assign an IP address from the net. To know the IP assigned by the server, you only have to press the three keys simultaneously.

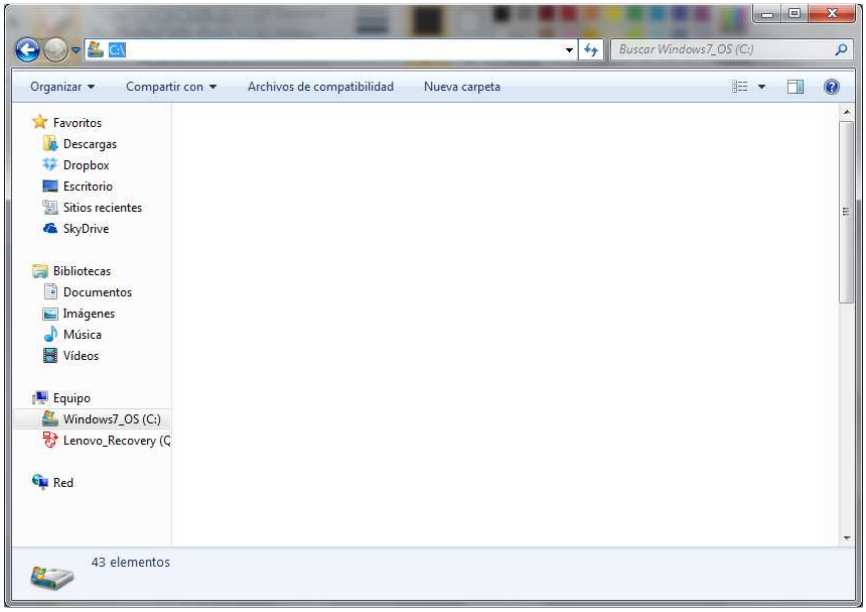
- Scroll right button
- Scroll up button
- Scroll down button

Once in the menu, go down using the key *scroll down*, until to see the IP section. In case to don't be possible, you can change in the IP fix working mode. To configure it, help yourself using the EDS's technical manual.

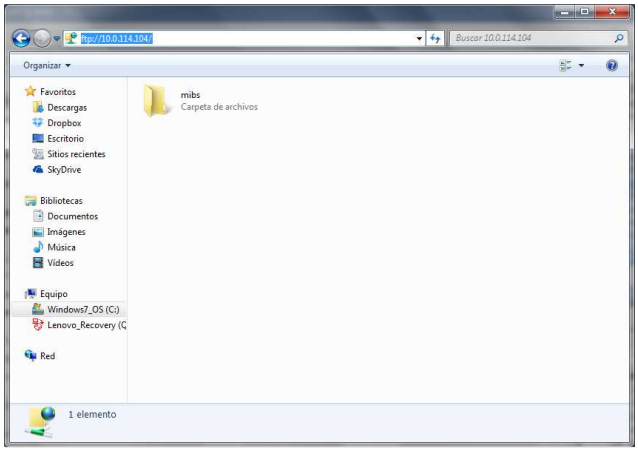
MIB files generation

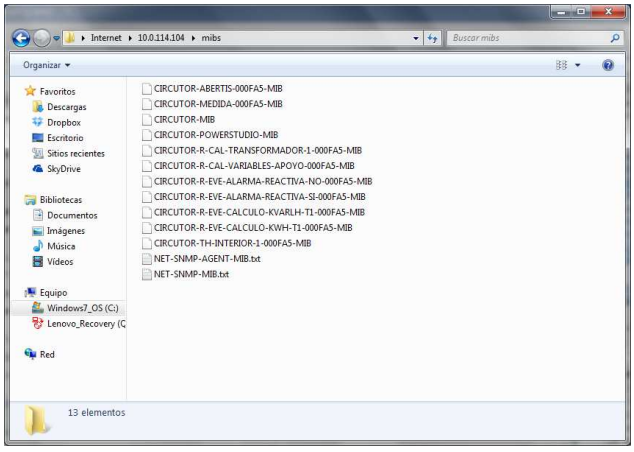
You can upload multiple PowerStudio configurations in the device. Whenever the device receive a new configuration, the EDS generates the necessary MIB files, according to the configuration received by the system (devices connected, calculated variables, events, etcetera).

To access the MIB files, EDS has an FTP server, where the user each time that generates a new application, these files will generate there. To access there, go using a browser to the path ftp://x.x.x.x



Inside of this FTP, will find a folder with MIB name, which are inside the files. The user can copy all MIB files, and paste them in other location.





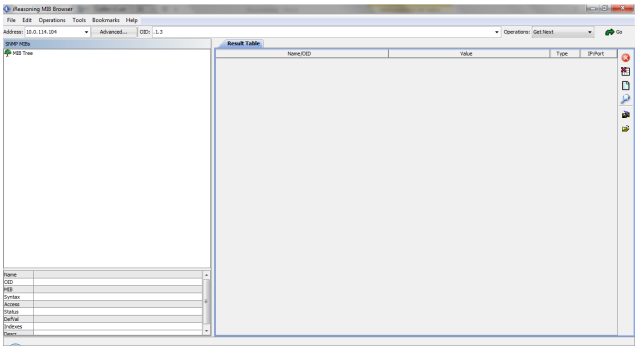
MIB Files

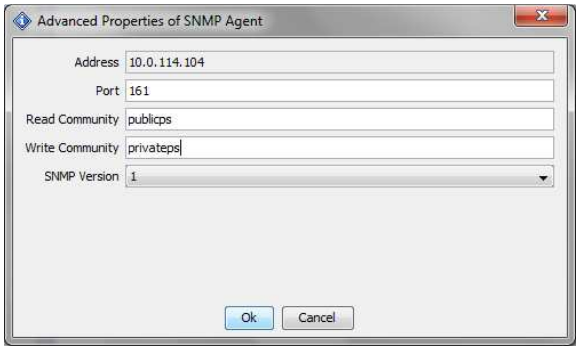
The EDS generates automatically one MIB file for each device, calculated variable or event generated by the PowerStudio application. As an example, we'll detail some files provided from a real application, which you can show in the previous picture:

- CIRCUTOR-MIB	Path file, where is the definition of SNMP CIRCUTOR
- CIRCUTOR-POWERSTUDIO-MIB	SNMP definition (timeouts runtime, and trap server), and the definition of the main node.
- ABERTIS-000FA5-MIB	Files with the variables from the EDS
- MEDIDA-000FA5-MIB	Files with the variables from the analyzer CVM- MINI
- TH-INTERIOR-000FA5-MIB	Files with the variables from the temperature and relative humidity sensor TH-RS485
- R-CAL-TRANSFORAMDOR-1-000FA5-MIB	Calculated variable to calculate a cos φ value
- R-CAL-VARIABLES-APOYO-1-000FA5-MIB	Calculated variable to calculate a cos φ value
- R-EVE-CALCULO-KWH-T1-000FA5-MIB	Event to calculate a cos φ values
- R-EVE-CALCULO-KVARLH-T1-000FA5-MIB	Event to calculate a cos φ value
- R-EVE-ALARMA-REACTIVA-SI-000FA5-MIB	Event to manage the cos φ alarm
- R-EVE-ALARMA-REACTIVA-NO-000FA5-MIB	Event to manage the cos φ alarm
- NET-SNMP-AGENT-MIB.txt	MIB files owners of SNMP server
- NET-SNMP-MIB.txt	MIB files owners of SNMP server
-	

Example of a MIB Configuration Browser

As the configuration example, the user must to introduce the IP address connection from the SNMP server (EDS), and must introduce as well, the password for read and write values (get and set functionalities).



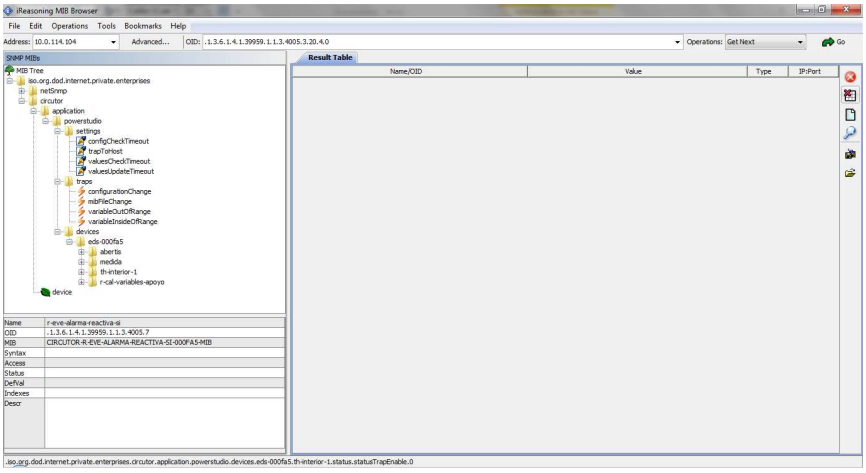


- Read Community publicps
- Write Community privateps

Upload MIB files

In next example, have been upload some of those MIB files available in the device, so is not mandatory to upload all of them. The user should select only the files that he'll use to make some process in the SNMP server.

- CIRCUTOR-MIB Mandatory upload
- CIRCUTOR-POWERSTUDIO-MIB Mandatory upload
- NET-SNMP-AGENT-MIB.txt Mandatory upload - MIB files owners of SNMP server
- NET-SNMP-MIB.txt Mandatory upload - MIB files owners of SNMP server
- ABERTIS-000FA5-MIB MIB file from EDS
- MEDIDA-000FA5-MIB MIB file from CVM
- TH-INTERIOR-000FA5-MIB MIB file from TH-RS485
- R-CAL-VARIABLES-APOYO-1-000FA5-MIB cos φ alarm [value 0 = (cos φ < 0,95)]



circutor-application-powerstudio-settings

Configuration of the SNMP server. Each value to be correspond, with the left description, under the scrollbar.

- configCheckTimeout.0 Seconds to check if the device has a new PowerStudio configuration
- trapToHost.0 Server IP, who is receiving the Traps from the devices
- valuesCheckTimeout.0 Seconds to check the state of the Trap values
- valuesUpdateTimeout.0 Seconds to refresh the value of all variables, in the SNMP server

Name/OID	Value	Type	IP:Port
configCheckTimeout.0	43200	Integer	10.0.114.10...
trapToHost.0	172.16.4.160	IpAddress	10.0.114.10...
valuesCheckTimeout.0	30	Integer	10.0.114.10...
valuesUpdateTimeout.0	15	Integer	10.0.114.10...

circutor-application-powerstudio-traps

Trap configuration.

- configurationChange Type 1 – Change of configuration
- mibFileChange Type 2 – MIB files available in the FTP, after a new configuration
- variableOutOfRange Type 3 – Activation Trap
- variableInsideOfRange Type 4 – Deactivation Trap

Name/OID	Value	Type	IP:Port
configCheckTimeout.0	43200	Integer	10.0.114.10...
trapToHost.0	172.16.4.160	IpAddress	10.0.114.10...
valuesCheckTimeout.0	30	Integer	10.0.114.10...
valuesUpdateTimeout.0	15	Integer	10.0.114.10...

circutor-application-powerstudio-devices

From the device's tree, the user everytime will find the eds-XXXXXX. Last six digits, means last six numbers of the MAC address. This information is useful, when the SNMP client is receiving multiple Traps from various devices.

After to deploy each devices, calculated variables or events, the user can visualize using Get commands, the all variables that the server is reading, and at the same time, the user can set a new configuration to send new Traps associated this variables.

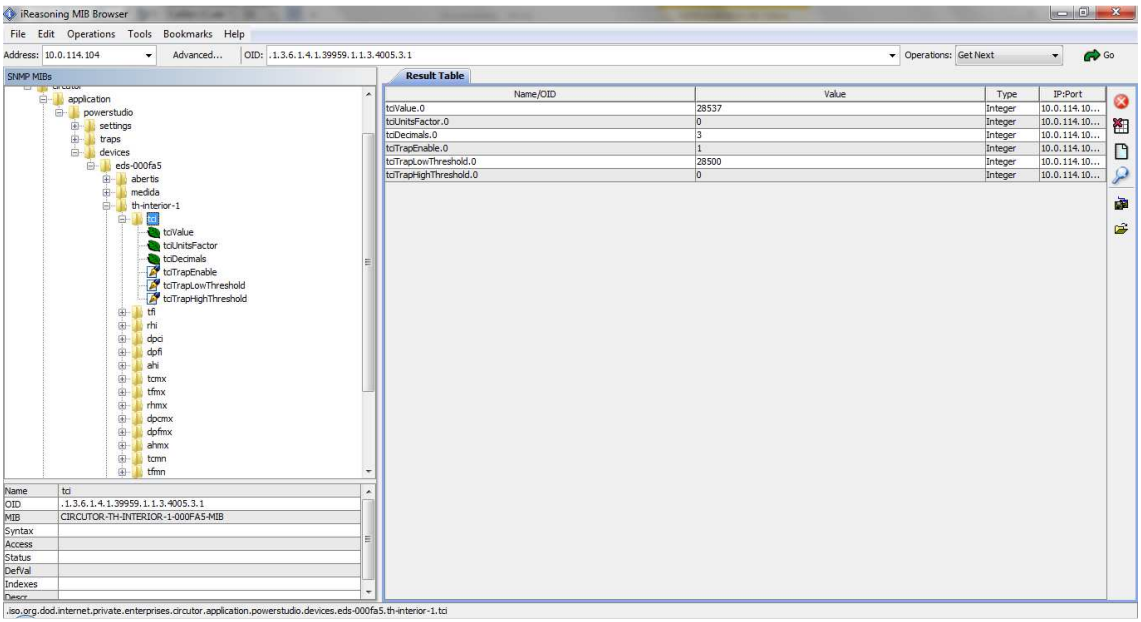
Trap configuration

In a generically way, the user can set the Trap system to a digital or analogical value.

trap configuration over an analogical value

As an example, we'll do an analog value configuration, corresponding to the value from the temperature sensor.

- tciValue.0 — Temperature value in degrees Celsius — Function: Get
- tciUnitsFactor.0 — Factor — Function: Get
- tciDecimals.0 — Decimals of the variable — Function: Get
- tciTrapEnable.0 — Activation Trap [0=Deactivation] [1=Activated] — Function: Get/Set
- tciTrapLowThreshold.0 — Low threshold trip — Function: Get/Set
- tciTrapHighThreshold.0 — High threshold trip — Function: Get/Set



trap configuration over an digital value

As an example, we'll do a configuration from a digital signal, corresponding of the reactive alarm value, from the device R-CAL-VARIABLES-APOYO-1-000FA5-MIB [0=ALARM ACTIVATED] [1=INSTALATION OK]

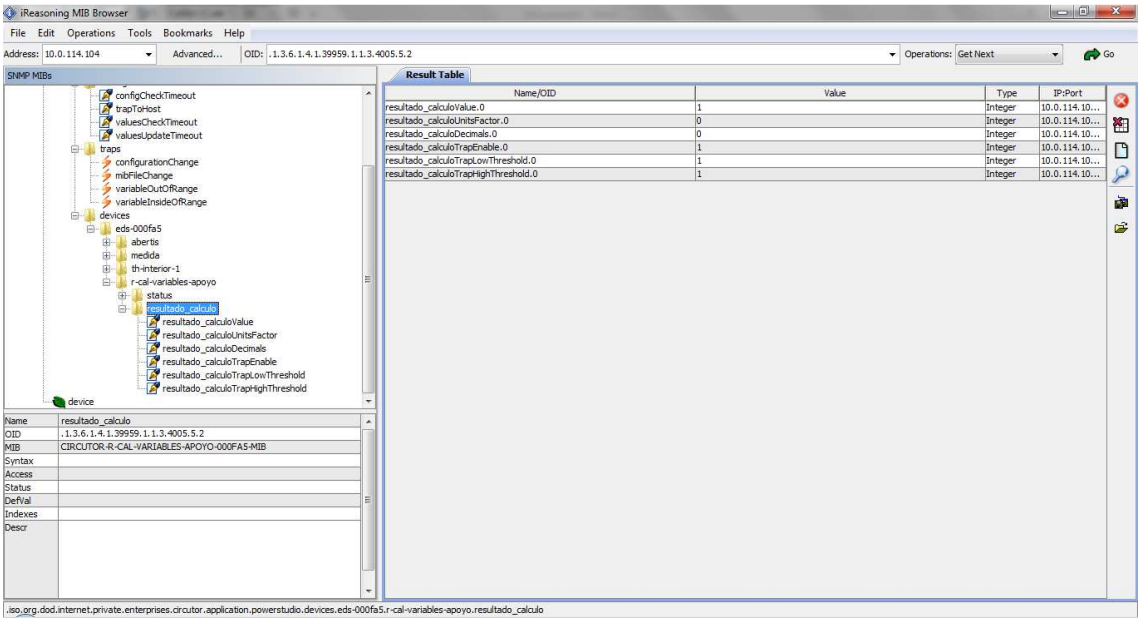
-	resultado_calculoValue.0	Variable value	Function: Get
-	resultado_UnitsFactor.0	Factor	Function: Get
-	resultado_Decimals.0	Decimals of the variable	Function: Get
-	resultado_TrapEnable.0	Activation Trap [0=Deact.] [1=Activated]	Function: Get/Set
-	resultado_TrapLowThreshold.0	Low threshold trip	Function: Get/Set
-	resultado_TrapHighThreshold.0	High threshold trip	Function: Get/Set

If the Trap is activated, and we'd like to generate a trap when the value is 0, the procedure will be (when the value is different to 1, Trap activation):

-	resultado_TrapEnable.0	Value	1
-	resultado_TrapLowThreshold.0	Value	1
-	resultado_TrapHighThreshold.0	Value	1

If the Trap is activated, and we'd like to generate a trap when the value is 1, the procedure will be (when the value is different to 0, Trap activation):

-	resultado_TrapEnable.0	Value	1
-	resultado_TrapLowThreshold.0	Value	0
-	resultado_TrapHighThreshold.0	Value	0



Traps receiving

Next, we show an example of all types of alarm Traps

Type 0 – Initialization system Trap

Source:	10.0.114.102	**Timestamp:**	5 seconds	**SNMP Version:**	1
Enterprise:	.1.3.6.1.4.1.8072.3.2.10				
Specific:	0				
Generic:	coldStart				
Description:	coldStart				

Type 1 – Change of PowerStudio configuration Trap [configurationChange]

Source:	10.0.114.102	**Timestamp:**	2 minutes 33 seconds	**SNMP Version:**	1
Enterprise:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.traps				
Specific:	1				
Generic:	enterpriseSpecific				
Description:					

Type 2 – MIB files available in FTP, after a change of PowerStudio configuration Trap [mibFileChange]

Source:	10.0.114.102	**Timestamp:**	2 minutes 55 seconds	**SNMP Version:**	1
Enterprise:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.traps				
Specific:	2				
Generic:	enterpriseSpecific				
Description:					

Type 3 – Trap activation [variableOutOfRange]

Source:	10.0.114.102	**Timestamp:**	4 minutes 2 seconds	**SNMP Version:**	1
Enterprise:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.traps				
Specific:	3				
Generic:	enterpriseSpecific				
Variable Bindings:					
Name:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.devices.eds-001afe.abertis.di1.di1Value				
Value:	[Integer] 1				
Description:					

Type 4 – Trap Deactivation [variableInsideOfRange]

Source:	10.0.114.102	**Timestamp:**	5 minutes 32 seconds	**SNMP Version:**	1
Enterprise:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.traps				
Specific:	4				
Generic:	enterpriseSpecific				
Variable Bindings:					
Name:	.iso.org.dod.internet.private.enterprises.circutor.application.powerstudio.devices.eds-001afe.abertis.di1.di1Value				
Value:	[Integer] 0				
Description:					