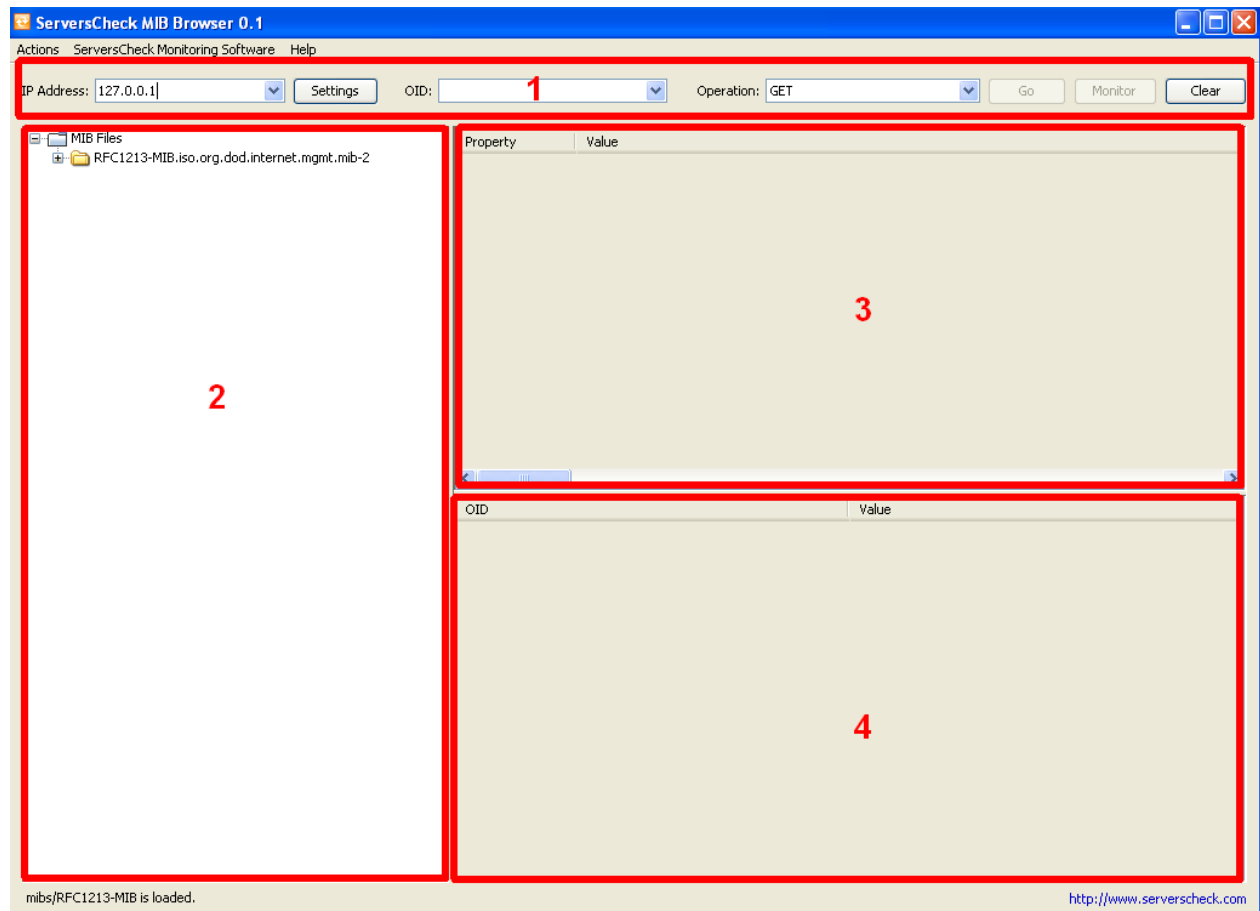


## HowTo: Query the values of the IoT Interface by SNMP and MIB browser

Ensure that the IoT Interface and the associated PC are located in the same network and a connection exists between them. To test this, you can call the web site of the IoT Interface from a browser and the IP address or send a Ping command to the device. Also download the current IoT Interface-MIB from [www.rittal.com](http://www.rittal.com) and unzip the folder with the designation "SMLv2" or "SMLv1".

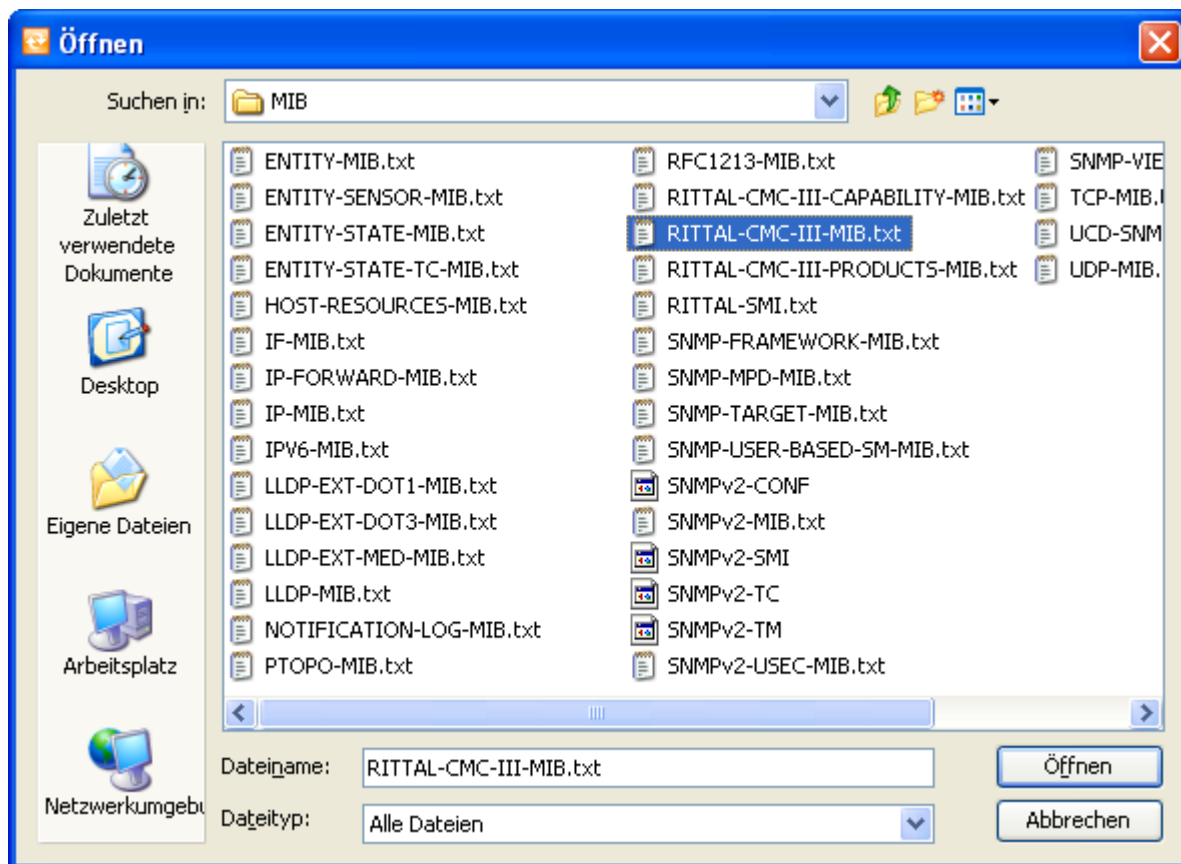
Start an MIB browser. For example, the "ServersCheck MIB Browser" available as freeware in the internet under [http://www.serverscheck.com/mib\\_browser/Default.asp](http://www.serverscheck.com/mib_browser/Default.asp) is also used in this HowTo. First start the MIB browser. The structure of the MIB browser is shown in Figure 1.



**Figure 1: ServersCheck MIB browser**

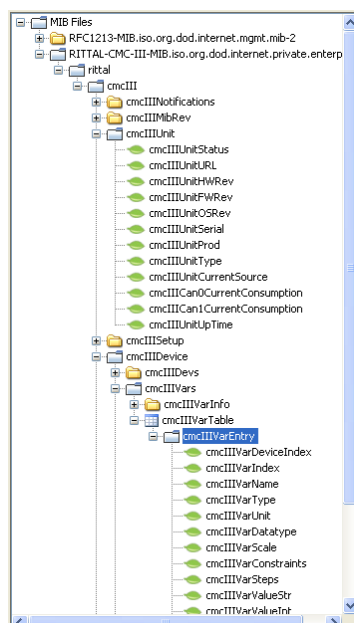
In field 1, enter the various address options, such as IP address, OID (special SNMP address for an information item) and the operation to be performed and send the defined SNMP command. The values and information returned as response from the PU are shown in field 4.

To update the MIB, click first "Actions" in the menu bar and then "Import MIB...". A window opens. Navigate to the previously unzipped "SMLv2" or "SMLv1" folder and select the "RITTAL-CMC-III-MIB.txt" file (Figure 2).




**Figure 2: Integrating MIB**

The MIB is displayed in a tree (Figure 3). When the folder is expanded it is possible to navigate through the tree. A value that can be queried is marked with a leaf symbol (🌿). If a value that can be queried is clicked in the tree, its OID will be transferred automatically to field 1 (from Figure 1).



**Figure 3: MIB tree structure**

To improve clarity, the information of the IoT Interface is sorted into various folders (the folders also represent the various OIDs).

The values of the sensors are shown in tables marked with a table symbol (). The tables contain the values that can be queried for each sensor, independent of its type. However, the OID transferred automatically into field 1 for an MIB browser must be changed. The last position of the OID must be deleted and replaced with the appropriate digit of the sensor to be queried. This digit can be found from the IoT Interface web site (in the tree structure on the web site, this digit is shown in square brackets prefixed to the associated sensor). If you now want to query information for a special measured value (e.g. the currently measured value), the OID must also be augmented with the digit of the measured value.

The measured value is queried using field 1 (Figure 1). The IP address of the IoT Interface to be queried as well as the address of the associated value (OID) must be entered.

SNMP provides several options that can be performed. The "GET" command queries only the value with the specified OID; "GETNEXT" queries the next value that follows the value with the specified OID. The "SET" command, if possible, writes the value with the specified OID (a new window for the input of the variable value to be written appears). The "WALK" command can be used to query all values of the IoT Interface concurrently.

## Download text file with all available OIDs from the IoT Interface

The IoT Interface provides the capability to easily download all available values and their OIDs as text file. This text file can be downloaded by FTP from the unit. To do this, first open a FTP program.

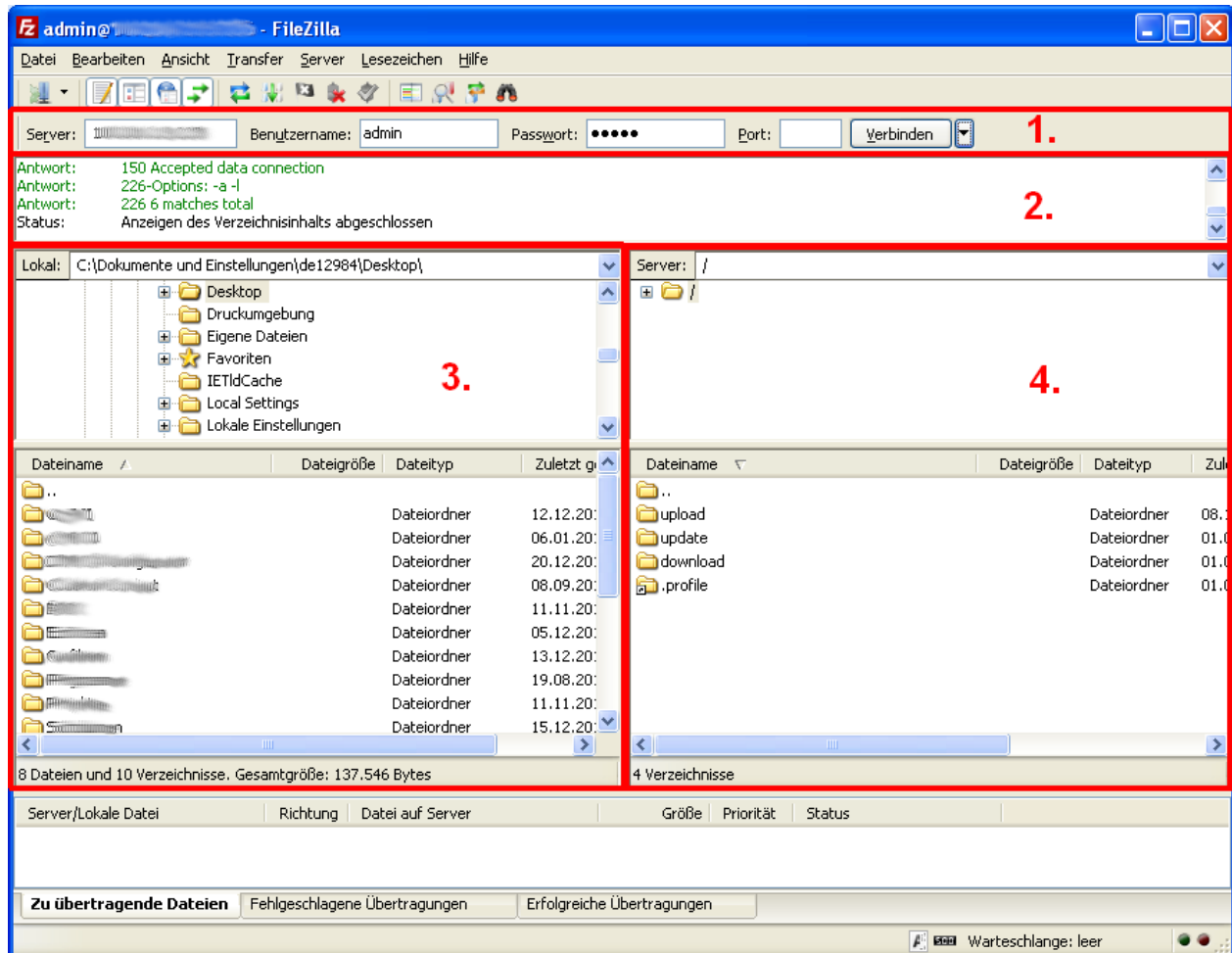
This description uses the "FileZilla" (<http://filezilla-project.org/>) program. Alternatively, an internet browser can also be used. In this case, enter the following address in the address line of the browser:

*ftp://username:password@ip-address*

Replace in this line, "username" with a user name authorised for an FTP connection and "password" with the associated password. Then replace "ip-address" with the IP address of the Processing Unit. After confirming the input, an FTP connection will be established.

Click on the folder to navigate within it and store the displayed files on the PC (📁) or display them directly in the browser (📄).

The management is, however, clearer with FileZilla. This FTP client provides a simple user interface (Figure 4) that makes the navigation easier.



**Figure 4: FileZilla user interface**

The IP address of the IoT Interface is first set in Figure 4 in the area 1. To establish the connection, the login parameters (username and password, set in the factory to

"admin/admin") must be entered and the associated port (FTP standard port = 21, SFTP standard port = 22) specified. Click the "Connect" button to establish the connection to the IoT Interface; the arrow next to the "Connect" button may need to be used to select the "Connect (bypass proxy settings)" option should a normal connection fail. This is displayed in area 2, in the same manner as for the successfully established connection. After establishing the connection, area 4 shows the folder of the IoT Interface. The "download" folder that contains the "OID\_List.cmc3" file is also shown next to the "update", "upload" and "profile" folders. With drag-and-drop or a right-click and "Download", this file can now be copied to the folder on the PC that was selected in area 3.

A text processing program, such as the Windows "Editor" or "Notepad++", available as free download at <http://notepad-plus-plus.org/>, can be used to open the "OID\_List.cmc3" file.

The file is subdivided into the various devices (IoT Interface, sensors and cooling uni/Chiller). The general information (designation and OID) that can be queried via SNMP is initially shown for each device. The information, including its OIDs, that can be queried is also listed for each measured value of a device.

The meaning of the associated values can be found via MIB browser should this not be clear from the designation.