MG-SOFT Corporation

MIB Explorer 2013

USER MANUAL

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1 INTRODUCTION

Thank you for using the MG-SOFT MIB Explorer.

MG-SOFT Corporation, established in March 1990, is the world's leading supplier of SNMP, SMI, NETCONF, YANG and general network management applications, toolkits and solutions for Windows, Linux, Mac OS X and Solaris platforms. MG-SOFT provides major IT companies worldwide with network management applications as well as with toolkits implementing core network management technologies. Furthermore, MG-SOFT provides customers with consulting services, custom made turn-key software products, solutions and/or services and network management integration solutions based on our extensive know-how and vast experience in network management technologies.

MG-SOFT has developed the world's first 32-bit SNMP protocol stack implementation for MS Windows operating systems and one of the first SNMPv3 implementations for Win32 platforms. As of today, MG-SOFT's SNMP stack implementation provides a solid base for all MG-SOFT's SNMP applications (as well as for thousands of third-party applications, built by our clients who licensed our WinSNMP API implementation) running on a number of operating system platforms: MS Windows (32-bit, 64-bit, embedded CE), Linux (32-bit and 64-bit), Mac OS X (PPC and Intel platforms, 32-bit and 64-bit), Mac iOS (iPad) and Solaris (Sparc and Intel platforms).

MG-SOFT is also active in the network configuration management area and offers a full line of NETCONF and YANG software products, ranging from a graphical YANG and YIN file explorer, over Visual YANG definition file designer up to full blown NETCONF configuration manager.

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1.1 Product Description

MG-SOFT MIB Explorer is a powerful and intuitive application for viewing, exploring, comparing, searching, and exporting MIB modules. MIB Explorer lets you explore graphically presented MIB tree structure of MIB modules, view MIB object properties, search for specific constructs and clauses within MIB modules, compare definitions in different MIB modules, explore dependencies between MIB modules, etc.

By using the powerful and flexible MIB Query feature, you can search any number of MIB modules for particular types of MIB objects, their clauses and values. MIB Explorer distinguishes itself with a user-friendly interface for specifying search conditions and lets you save search configuration for later use.

The software lets you compare two MIB modules side-by-side and view either all differences in compared modules, all matches or both. The compare function can be configured to ignore the differences you consider irrelevant (like the differences in MIB object descriptions, etc.), which can be particularly useful when comparing different versions of the same MIB module.

MIB Explorer lets you select a MIB module and view all MIB modules it depends on (imports definition from), so you can organize dependent MIB modules into MIB groups or export them together to other file formats in order to use or explore MIB modules in external applications.

Besides displaying compiled MIB modules in graphical form, MIB Explorer also lets you view MIB definition source files containing SMI code.

MIB Explorer lets you export MIB definitions to a number of well-known file formats, like HTML, Dynamic HTML, XML, XML Schema, PDF, TXT, NETCONF YANG and MOSY-compatible format in order to examine or use MIB modules in applications that support those formats.

Additionally, MIB Explorer lets you generate HTML reports and fully customizable user-defined reports, containing arbitrary information about MIB modules, including the MIB tree hierarchy. The integrated Report Wizard helps you create HTML reports and export MIB definitions to other formats in a few simple steps. HTML reports allow you to explore the MIB tree, SMI definitions, MIB dependencies, and statistics about selected types of MIB objects by using a web browser.

1.2 About This Manual

This manual contains detailed information about MG-SOFT MIB Explorer program. The manual will guide you through the installation process and the use of the program.

It is supposed that you are familiar with basic actions in Windows environment such as choosing a main menu command or a pop-up command, dragging and dropping icons, etc.

This manual consist of:

- The introduction; containing the general information about the program, configuration requirements and other information you need to know before you start.
- The getting started part; which will tell you how to start MIB Explorer and describe MIB Explorer desktop.
- The general part, containing the information about working with MIB Explorer (exploring MIB modules, creating MIB module report files, exporting MIBs, setting general program preferences, etc.).
- Glossary
- Index

Almost all MG-SOFT MIB Explorer operations can be accessed in several possible ways. You can either use:

- Main menu commands (e.g., ***Edit*** / ***Copy*** -the construction Edit / Copy means: click the ***Edit*** command in the menu bar and select the ***Copy*** entry from the opened sub-menu.)
- Toolbar buttons (e.g.,)
- Pop-up menu commands (e.g., ***Copy*** - to use the Copy pop-up command, right-click inside a window, panel, or frame…).
- Keyboard shortcuts (e.g., ***Ctrl+C*** - hold down the ***Ctrl*** key and at the same time press the ***C*** key).

The majority of the procedures in this manual are described by using the main menu commands. However, you can use any of the above-mentioned shortcuts if available.

1.3 Configuration Requirements

Note: MG-SOFT MIB Explorer application is available in MG-SOFT MIB Browser Professional Edition package. Therefore, you need to install the MIB Browser Professional Edition software package in order to start and work with MIB Explorer application. The MIB Browser Professional Edition package contains Visual MIB Builder, MIB Browser, MIB Compiler and MIB Explorer applications.

MIB Explorer runs on Microsoft Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, Windows Server 2012 and Windows 8.

For detailed system requirements, as well as installation and uninstallation procedures, please refer to the corresponding sections (Windows only) in MIB Browser User Manual.

2 GETTING STARTED

This section will tell you how to start the MIB Explorer application and introduce the MIB Explorer desktop.

2.1 Starting MIB Explorer

MG-SOFT MIB Explorer can be started in one of the following ways:

1 Select the MIB Explorer icon from the Windows Start menu.

2 Double-click the MIB Explorer shortcut icon available in MG-SOFT MIB Browser folder on your desktop.

2.2 MIB Explorer Desktop

When you start MIB Explorer program, its desktop (Figure 1) appears.

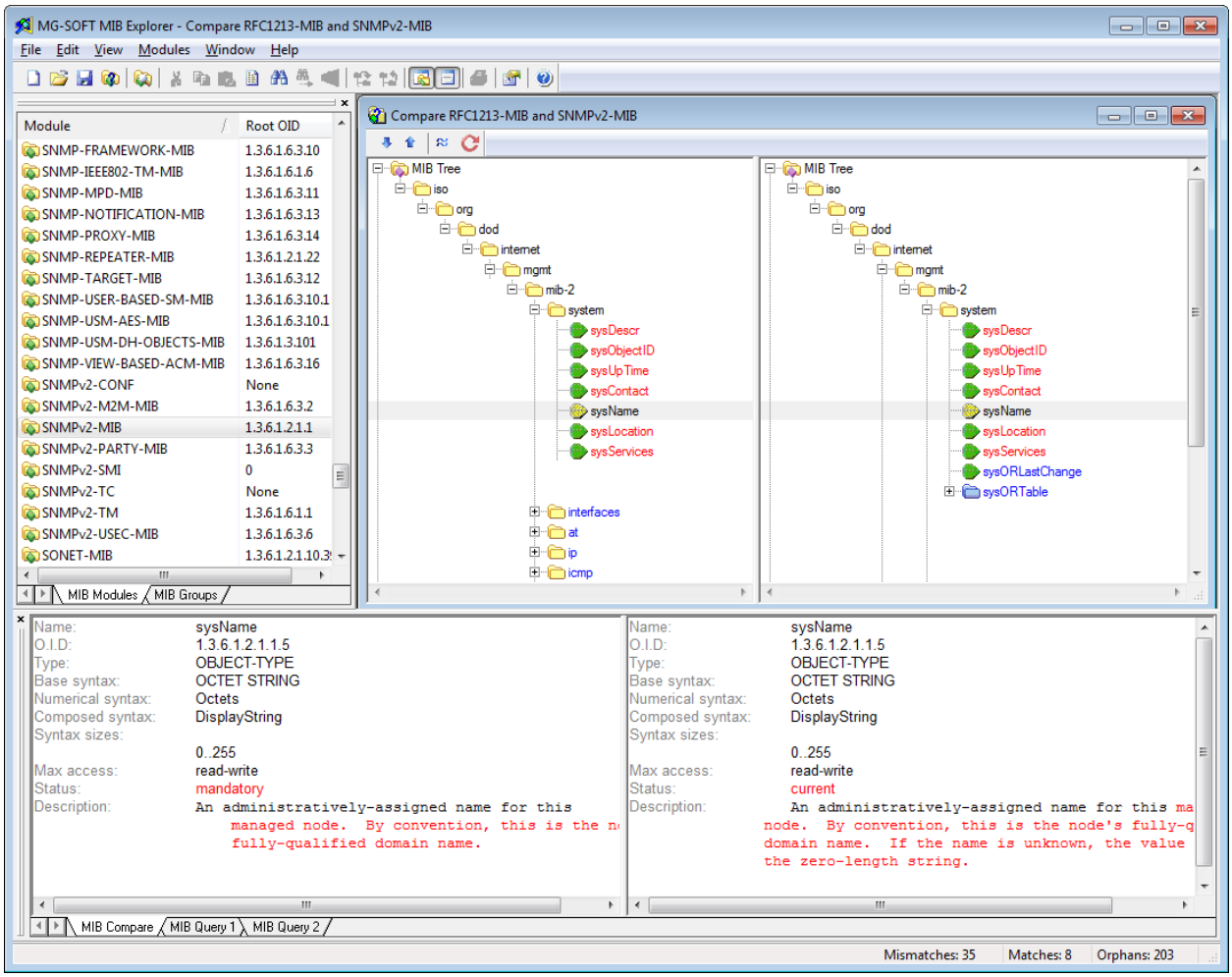
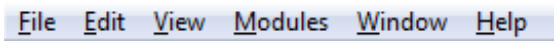


Figure 1: MG-SOFT MIB Explorer desktop

MIB Explorer desktop follows the conventions of the appearance and functionality of the general Windows interface in that it has a title bar, menu bar, toolbar, status bar, as well as minimize, maximize and close buttons, but it differs in specific areas.

Menu bar is the bar near the top of the main window. It contains names of the program menus. By clicking a menu name a list of commands used to access various features of the program and to perform different operations appears.



Toolbar contains a group of buttons that provide a quick access to a series of most common menu commands. You can get a brief description of the task behind each toolbar button either in a tooltip, or in the Status bar, by placing the mouse cursor on the toolbar button (without clicking).

You can show or hide it by using the ***View*** **|** ***Toolbar*** command.

Status bar is an on-screen display area at the bottom of the main window that shows information about tasks behind toolbar buttons when placing the mouse cursor on the toolbar button (without clicking).

When the MIB Modules window is active, status bar displays a number of selected, compiled and all currently registered MIB modules.

When the MIB Group window is active, status bar displays a number of MIB modules in the MIB group and a number of selected MIB modules.

You can show or hide it by using the ***View* | *Statusbar*** command.

The **Working area** is the area between the toolbar and the status bar. Each window or dialog box you open will be displayed in this working area.

The **MIB Modules window** is a docking window showing the currently registered MIB modules. It has two columns. The ***Module*** column lists MIB modules in an alphabetical order and the ***Root OID*** column displays each MIB module's OID.

The light yellow icons indicate MIB modules that have not yet been compiled; the dark yellow icons indicate compiled MIB modules. Icons containing the red point with a question mark indicate that the MIB source is not known.

You can show or hide it by using the ***View* | *Modules*** command.

The **Details window** is a docking window. It displays the comparison details for the selected MIB nodes. It consists of three tabs: MIB Compare, MIB Query 1 and MIB Query 2.

You can show or hide it by using the ***View* | *Details*** command.

3 EXPLORING MIB MODULES

The most powerful part of MIB Explorer is its flexible query framework for exploring MIB modules. This feature lets you configure search conditions to search for specific objects, clauses and/or values within MIB files and display search results.

In this section you will learn about this as well as how to view MIB module properties, dependencies, source (definition) files, and how to compare MIB modules.

This section describes how to:

- View MIB module properties
- View MIB module source files
- Search for MIB module dependencies
- Organize MIB modules in groups
- Compare MIB modules
- Search for specific objects, clauses and/or values within MIB modules

3.1 Viewing MIB Module Properties

The MIB Modules window displays all MIB modules registered on the computer running MIB Explorer. The window contains two columns. The `Module` column displays the name of every MIB module and an icon that indicates whether the source MIB file, the compiled MIB file, or both files are registered for the given MIB module. The `Root OID` column displays the first OID in lexicographical order that is defined in each MIB module.

To view additional MIB module properties, proceed as follows:

1 Select the MIB module, which you want to see the properties of and use the ***Modules | Properties*** command.

2 This will open the Properties dialog box (Figure 2).

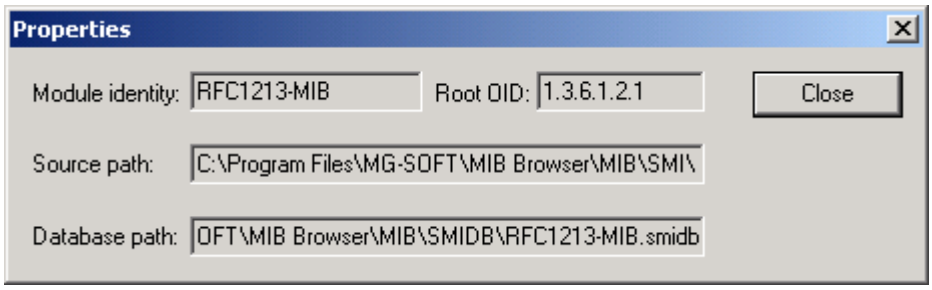


Figure 2: Properties dialog box

3 The Properties dialog box displays the following MIB module information:

- MIB module identity (name)
- MIB module root OID
- MIB module source file path
- MIB module database (compiled) file path

4 After viewing MIB module properties, click the ***Close*** button to close the dialog box.

> **Note:** You can also view MIB module properties in the right window panel of the MIB Group window. For more information, see the Organizing MIB Modules in Groups section of this manual.

3.2 Viewing MIB Module Definition File

MIB Explorer offers MIB module source display in the MIB Source window. The MIB Source window supports syntax highlighting and enables viewing and editing MIB module definition files, as well as writing your own MIBs.

To write your own MIB:

1 Use the ***File*** **|** ***New*** command.

2 This will open the New dialog box (Figure 3).

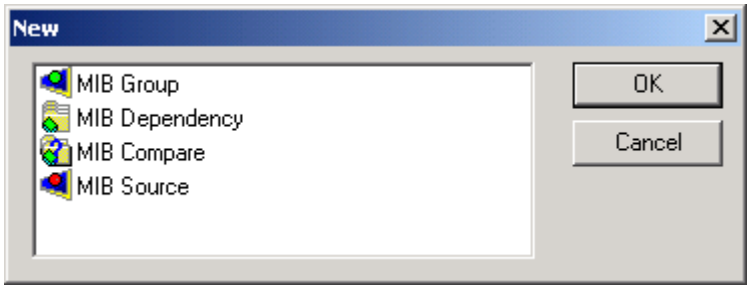


Figure 3: New dialog box

3 Select the `MIB Source` option.

4 Click the ***OK*** button.

5 This will open the MIB Source window (Figure 4).

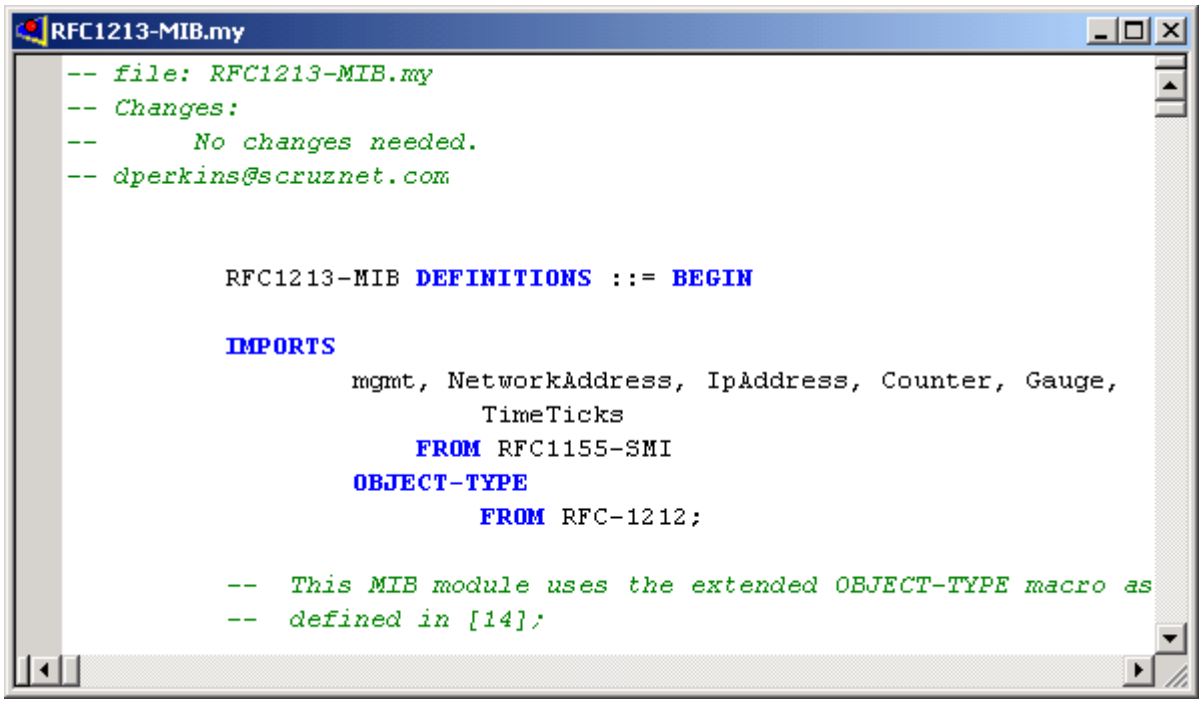


Figure 4: MIB Source window for RFC1213-MIB

To view a MIB source file:

1 In the MIB Modules window select the MIB module of which source file you want to see.

2 Use the ***View Source*** pop-up command.

3 This will open the MIB Source window (Figure 4).

> **Tip:** The MIB Source window is a MIB module source editor. When editing your text, you can use the following editing options: `Cut`, `Copy`, `Paste`, `Select All`, `Find`, `Replace`, and even toggle a `bookmark`.
>
> For more information about those pop-up commands, see the online help file that was installed with the program.

3.3 Searching for MIB Module Dependencies

A typical MIB module imports some definitions from other MIB modules and therefore depends on these modules (which may further depend on other MIB modules, etc.). MIB Explorer lets you select a MIB module and search for its dependencies, i.e., find and display all MIB modules, which the given module imports definitions from, and recursively, all MIB modules which these modules depend on (up to the MIB modules that do not depend on any other modules). This option is useful for determining which MIB modules are required for compiling a given MIB module. One can then export the entire group of dependent MIB modules to TXT, HTML, MOSY, XML and other file formats or organize dependent modules into MIB groups.

Note: If a MIB module imports MACRO definitions or basic SMI data types (Integer32, Gauge, etc.) from other MIB modules, such MIB modules will not be displayed in the list of dependencies.

To view MIB module dependencies:

1 In the Modules window select the MIB module for which you want to view dependencies (e.g., `RFC1215-TRAP`).

2 Use the ***Modules | View Dependencies*** command.

3 The MIB Module Dependencies window opens (Figure 5) displaying the selected MIB module and its dependencies.

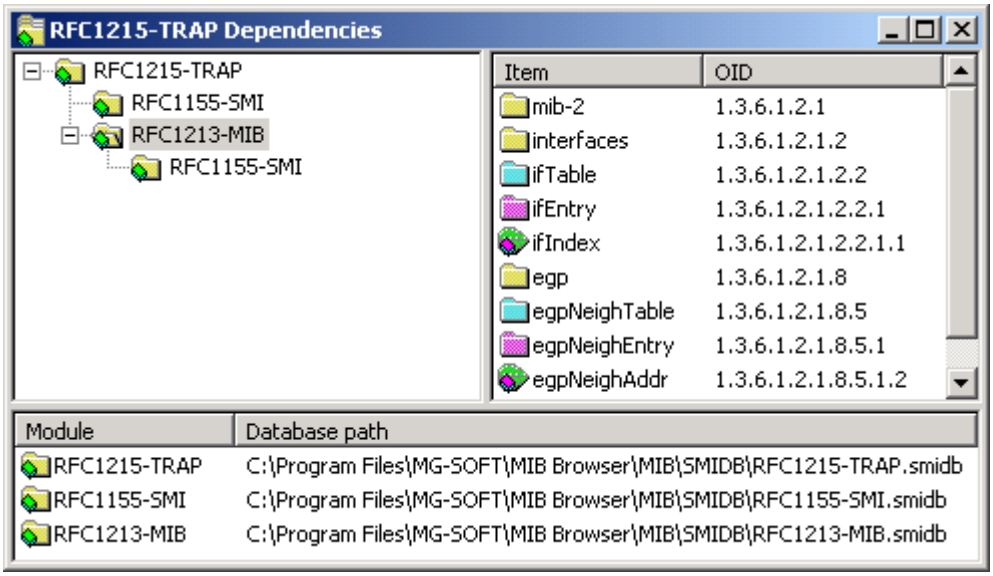


Figure 5: MIB Module Dependencies window

Tip: To expand the hierarchical tree structure, use the ***Expand*** toolbar button, or use the ***Collapse*** toolbar button in order to collapse it.

Note: You can also open the Dependencies window by using the ***File | New | MIB Dependency | OK*** command. In this case, you can drag the MIB module for which you wish to view dependencies (e.g., `RFC1213-MIB`) from the MIB Modules window and drop it onto the MIB Dependencies window. You can also drag and drop the module from the Windows Explorer.

The selected module and its dependencies are displayed in the upper-left window panel in form of a hierarchical tree. The root node is the module being resolved.

The items imported from the selected MIB module into the MIB tree are displayed in the upper-right window panel.

The lower window panel lists all MIB modules that are displayed in the upper-left window panel and their database paths. The listed MIB modules are required for compiling the root node displayed in the upper-left window panel (i.e., the MIB for which dependencies are displayed).

Tip: You can also print the tree structure that is displayed in the upper-left window panel. In order to do that, use the ***File | Print*** command or click the ***Print*** toolbar button.

3.4 Organizing MIB Modules in Groups

MIB Explorer enables you to work not only with one MIB module at a time but with a MIB group containing a set of MIB modules of your choice. You can add a MIB module to a group in several ways. It also depends on whether you will add a MIB module to an already existing group or create a new group.

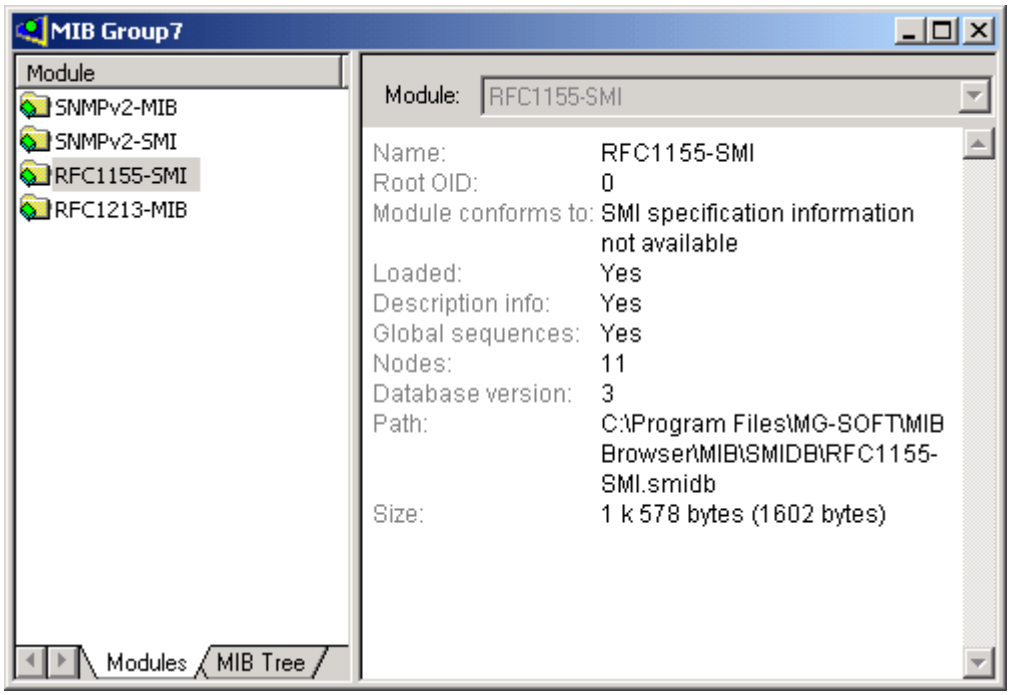
To create a MIB group:

1 Use the ***File*** **|** ***New*** menu command.

2 This will open the New dialog box (Figure 3).

3 Select the MIB Group entry and confirm the selection by clicking the ***OK*** button.

4 This will open an empty MIB Group window.



Note: When the MIB Group window is active, status bar displays a number of MIB modules in the MIB group and a number of selected MIB modules.

Figure 6: MIB Group window

To add a MIB module to a new group:

1 In the MIB Modules window, select MIB module(s) you want to add to a MIB group by clicking it (them).

2 Then drag the selected MIB module(s) and drop it (them) onto the ***Modules*** tab in the MIB Group window.

> **Note:** You can also drag and drop the selected MIB module from a folder in the Windows Explorer.

3 MIB modules names are displayed in the ***Modules*** view. Clicking a MIB module will show its properties in the right window panel. See Figure 6.

4 Switch to the ***MIB Tree*** tab (Figure 7) and you will see the hierarchical representation of MIB modules currently loaded in the MIB Group window.

5 To view properties of a MIB node, click it in the MIB tree and they will be displayed in the MIB Node Properties window panel on the right side of the MIB Group window.

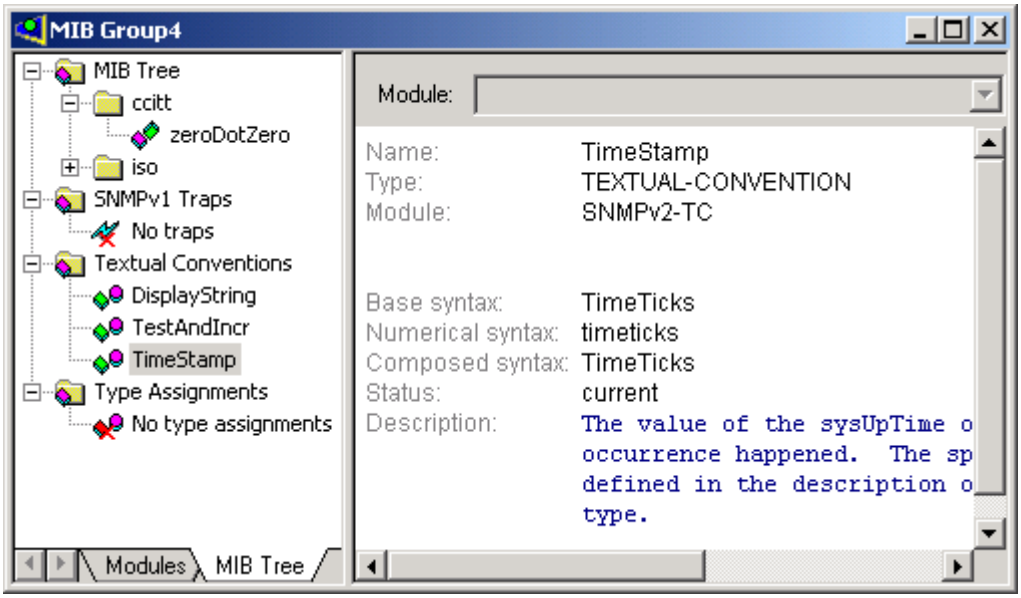


Figure 7: MIB Group window, MIB Tree tab

To add a MIB module to an existing MIB group:

1 In the MIB Modules window, select MIB module(s) you want to add to a MIB group by clicking it (them).

2 Select the ***Add to MIB Group | MIB GroupX*** (where X is a number of the already existing MIB group you want to add the selected MIB module(s) to) pop-up command.

3 MIB modules names are displayed in the Modules view. Clicking a MIB module will show its properties in the right window panel. See Figure 6.

4 Switch to the MIB Tree tab (Figure 7) and you will see the hierarchical representation of MIB modules currently loaded in the MIB Group window.

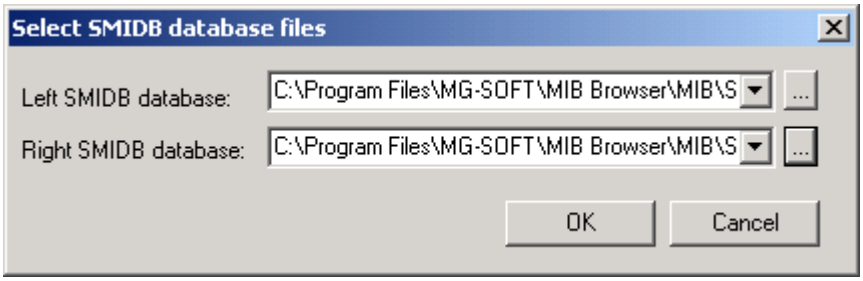
5 To view properties of a MIB node, click it (the node) in the MIB tree and the properties will be displayed in the MIB Node Properties window panel on the right side of the MIB Group window.

3.5 Comparing MIB Modules

MIB Explorer lets you compare two MIB modules side-by-side, by examining both MIB trees and the properties of compared nodes. You can view matches and mismatches between both MIB modules and as well as those nodes that are present in only one of both MIB modules.

3.5.1 Selecting MIB Modules to Compare

1 Select the ***File | Compare*** command or click the ***Compare*** toolbar button . This will open the Select SMIDB Database Files dialog box (Figure 8).



Tip: You can also use the drop-down lists (that display 10 last compared MIB modules) to select two MIB modules to compare.

Figure 8: Select SMIDB Database Files dialog box

Tip: Alternatively, when comparing two registered MIB modules, you can select two MIB modules in the MIB Modules window and choose the ***Compare*** pop-up command or the ***Modules | Compare*** menu command.

2 Use the ***browse*** buttons (**...**) next to the drop-down lists to browse your computer and choose the SMIDB files to be compared from disk. After choosing two MIB modules to compare (e.g., `RFC1213-MIB` and `SNMPv2-MIB`), click the ***OK*** button.

3 The compared MIB modules will be displayed in the Compare window (Figure 9).

The Compare window consists of two window panels that display MIB trees of compared MIB modules side-by-side. To expand or collapse both MIB trees at the same time, use the ***Expand*** or ***Collapse*** pop-up commands or the associated toolbar buttons.

Note: By default, MIB Explorer compares all nodes and their properties in both MIB modules and colors the names of nodes that differ in the Compare window. The names of matching nodes are displayed in black color, while the names of mismatching nodes (i.e., nodes that have the same OIDs, but different properties) are displayed in red color. Blue color indicates orphan nodes, i.e., nodes that are present in only one of both MIB trees. MIB Explorer can also be configured to ignore certain differences in node properties, as described in the following section.

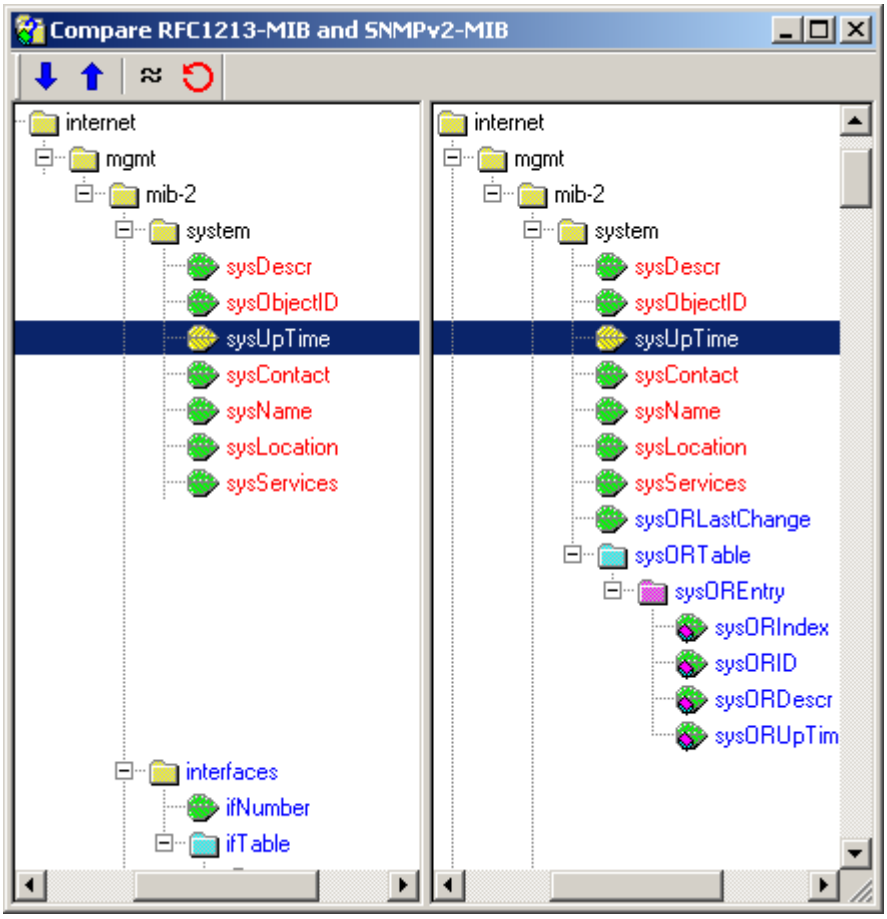


Figure 9: Compare window

3.5.2 Comparing MIB Modules

1 To view and compare properties of nodes as defined in both MIB modules, first open the Details window (if it is not opened already) by choosing the ***View | Details*** command and switch to the MIB Compare tab of the Details window.

2 Click a node in the Compare window to view its properties in the Details window (MIB Compare view). The left panel of the Details window displays properties of the node as defined in the first (left) MIB module and the right panel shows the properties of the node as defined in the second (right) MIB module. Matching properties are displayed in black color and differences in properties are colored red (Figure 10).

3 By default, MIB Explorer displays all properties of compared nodes in the Details window. To see only the mismatching properties or only matching properties, select the ***Show Details | Differences*** or the ***Show Details | Matching*** pop-up command in the Compare window, respectively (Figure 10).

4 To quickly locate the first mismatching node in compared MIB modules and view the differences in its properties, click the ***Next Difference*** toolbar button or pop-up command in the Compare window (this command is disabled if there are no mismatching nodes in both modules). Mismatching nodes are nodes that have the same OIDs in both MIB modules, but different properties. Use the ***Next Difference*** and the ***Previous Difference*** toolbar buttons to jump to the next or previous

mismatching node in compared MIB modules (note that this command will not find the orphan nodes). The total number of mismatching, matching and orphan nodes is displayed in the status bar.

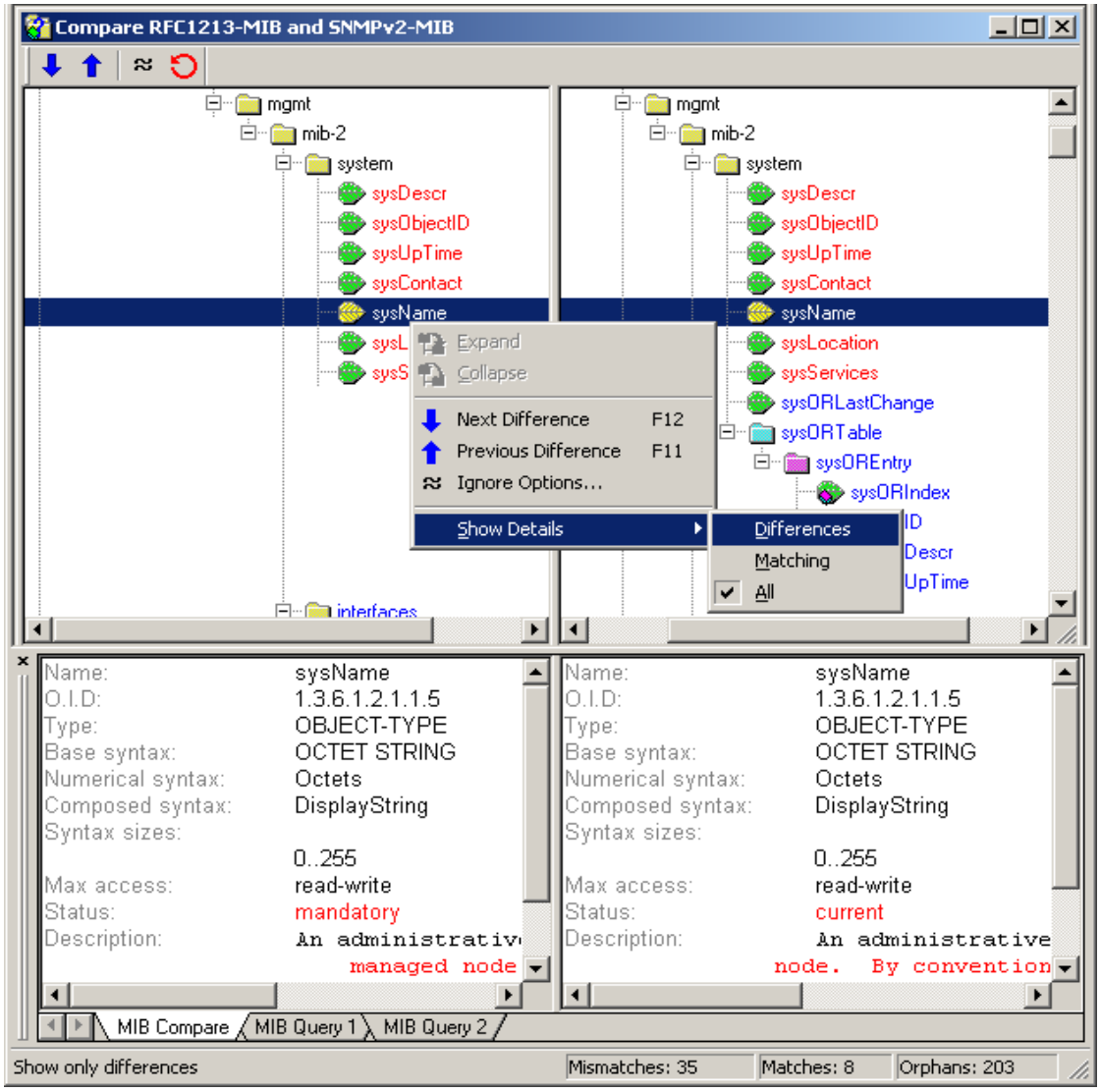


Figure 10: Comparing MIB modules in Compare and Details windows

To Ignore Differences in Node Properties

By default, the Compare window displays the names of all mismatching nodes (i.e., nodes that have the same OID but different properties in both MIB modules) in red color. Sometimes it may be useful to ignore certain differences in node properties (like different node descriptions etc.) in order to be able to focus on other differences that you consider relevant. To configure the Compare window to ignore certain differences in values of node properties (an thus not to color such mismatching nodes red), proceed as follows:

1 Select the ***Ignore Options*** pop-up command or the ≈ toolbar button in the Compare window to open the Ignore Options dialog box (Figure 11).

2 In the Ignore Options dialog box check the checkboxes in front of node properties you want to ignore and click the ***OK*** button to close the dialog box.

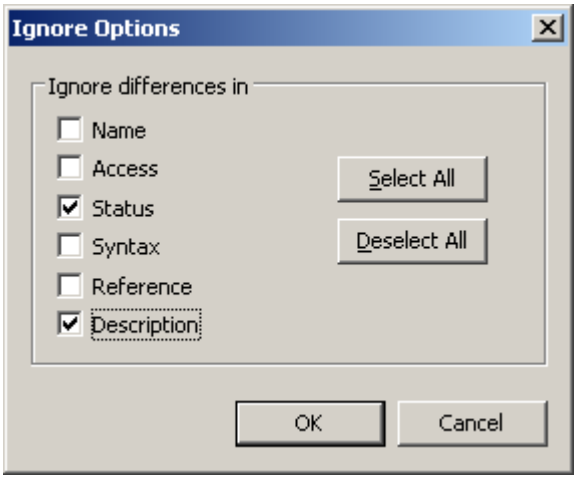


Figure 11: Ignore Options dialog box

3 After expanding both MIB trees again, the names of nodes that differ only in ignored properties will no longer be marked as mismatching (red) in the Compare window. In our example, the value of the Status and Description clauses differ for the `sysName` node (Figure 9). After choosing the option to ignore the differences in Status and Description clauses (Figure 11), `sysName` node is no longer colored red in the Compare window, while the differences are still visible in the Details (lower) window (Figure 12).

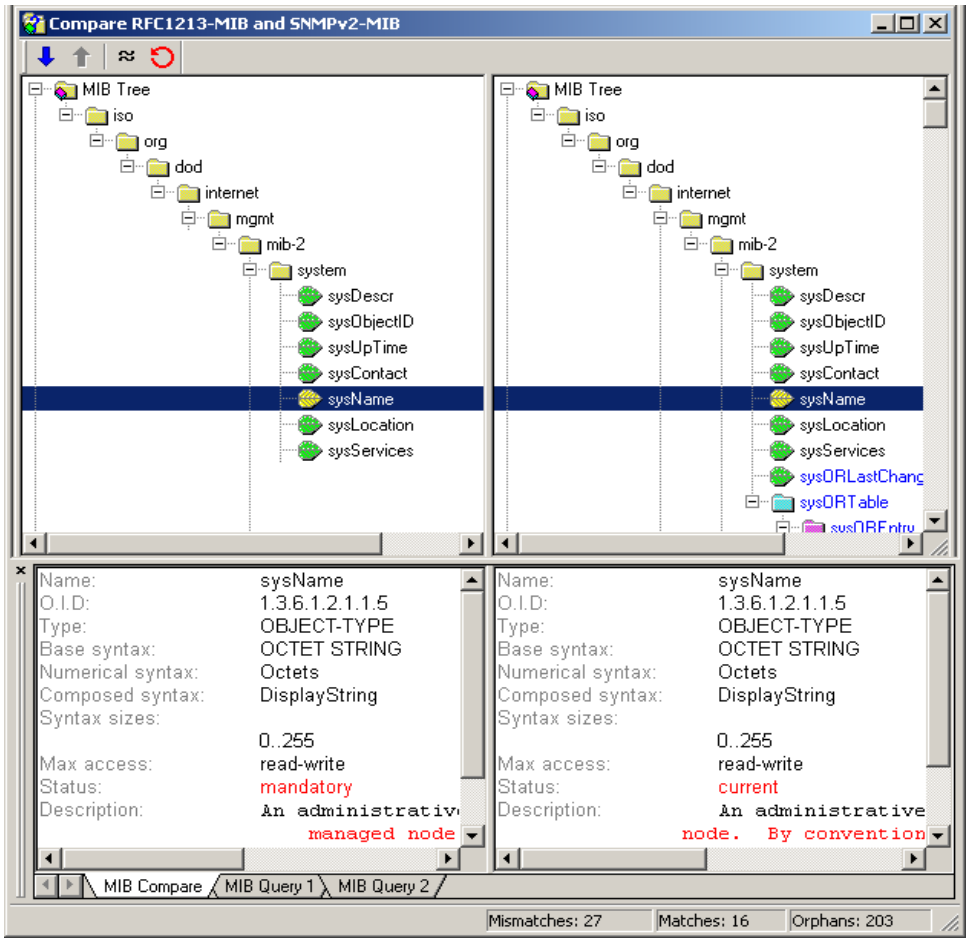


Figure 12: Ignoring some differences in MIB object definitions

3.6 Querying MIB Modules

MIB Query is a powerful search engine integrated in MG-SOFT MIB Explorer. It provides a convenient and user-friendly interface for specifying query conditions (called filters) in order to search MIB modules for particular types of MIB objects, their properties and values. To refine or specify a complex query condition, you can add and configure multiple filters and connect them with logical operators in order to form a query expression.

3.6.1 Specifying Query Conditions

To use MIB Explorer query feature, you need to add and configure one or more filters in the MIB Query dialog box. To do this, proceed as follows:

1 Use the ***File | MIB Query*** command to open the MIB Query window (Figure 13).

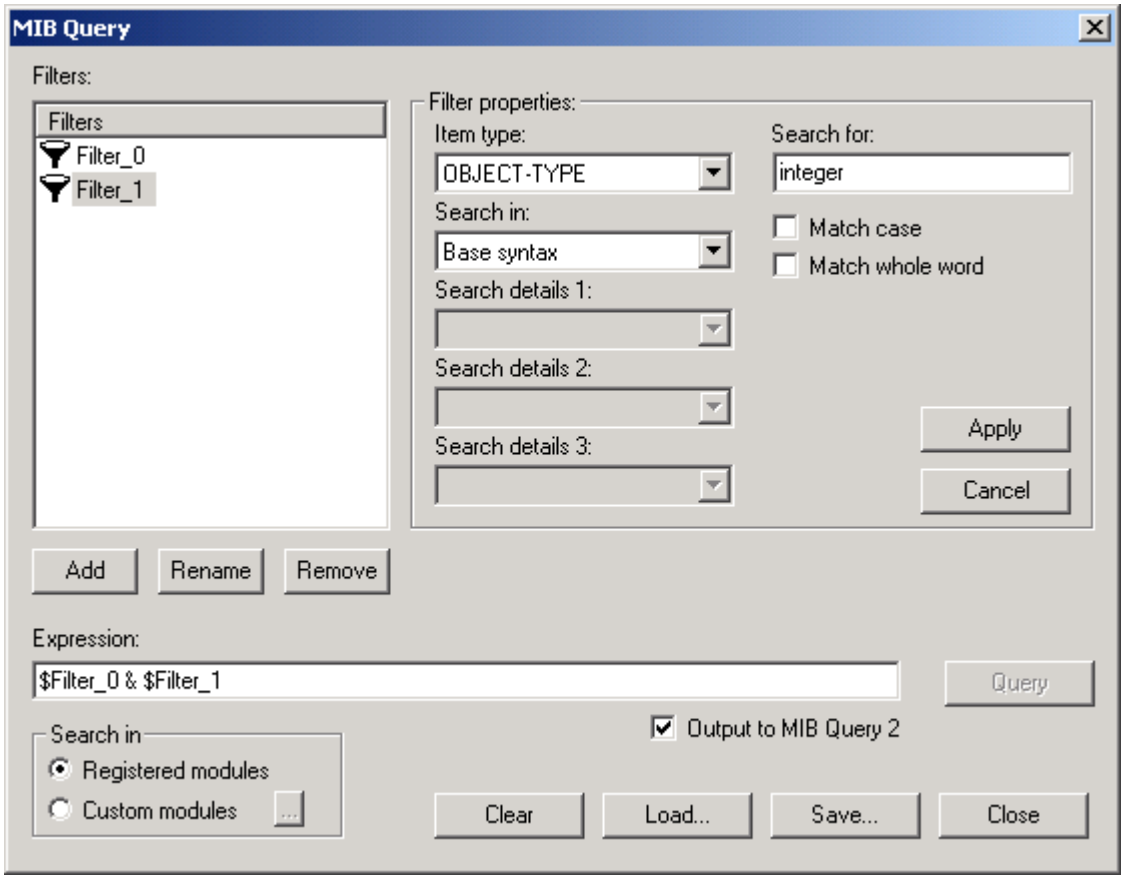


Figure 13: MIB Query dialog box

2 Click the ***Add*** button to add a filter (`Filter_0`) to the ***Filters*** list.

> **Note:** To rename a filter, click the ***Rename*** button and enter a new name for the filter.

3 From the ***Item type*** drop-down list, select the type of the MIB object you are searching for (e.g., `OBJECT-TYPE`).

4 In the ***Search in*** drop-down list, you can refine the query condition by choosing a property (e.g., `Base syntax`) of the MIB object that is selected in the ***Item type*** drop-down list. For more information, see the Specifying Search Details section.

5 In the ***Search for*** input line, you can further refine the query condition by entering a specific value of the item selected in the ***Search in*** drop-down list (e.g., `Integer`). For more information, see the Specifying Search Details section.

> **Note:** If you want to perform a case sensitive search, check the ***Match case*** checkbox.
>
> To restrict the query to the whole words only, check the ***Match whole word*** checkbox.

6 Apply the settings by using the ***Apply*** button.

7 To add another filter to the MIB Query dialog box, repeat the steps 2-6.

> **Note:** Depending on the value in the ***Search in*** drop-down list, the ***Search for*** option will be displayed as an input line or as an input area. When entering information into the input area, the browse button (**...**) next to it can help you specify a valid value. In case the input line is displayed, you will need to type in the value manually.

8 When you use the ***Search for*** input area, use the browse button (**...**) next to it. This will open the Value Selection dialog box (Figure 14).

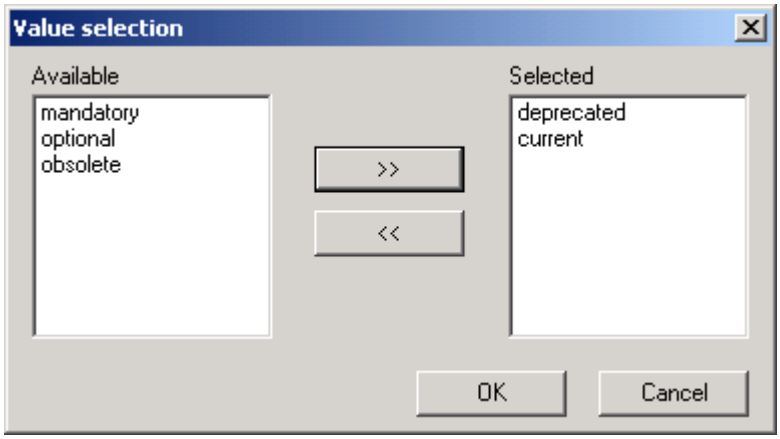


Figure 14: Value Selection dialog box

9 Use the arrow buttons to add values to the ***Selected*** input area and click the ***OK*** button. The selected value will appear in the ***Search for*** input area (Figure 15).

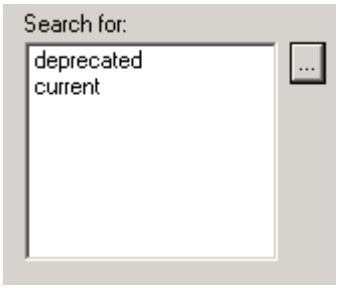


Figure 15: Search For input area in the MIB Query dialog box

10 After each modification apply the settings by using the ***Apply*** button.

11 In the ***Expression*** input line you can arrange and combine filters to form a query expression by using brackets and the following logical operators:

- & (logical AND)
- | (logical OR)
- ! (logical NOT)

12 After configuring the query expression, click the ***Query*** button to start the query.

13 The ***Progress*** dialog box opens (Figure 16) indicating the query progress. If you wish to abort the query operation, click the ***Cancel*** button.

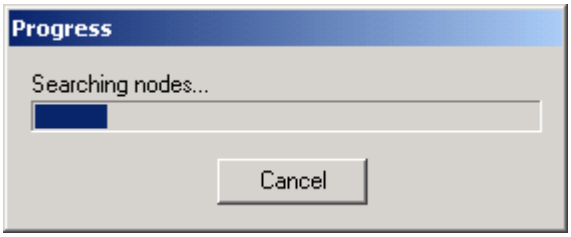


Figure 16: Progress dialog box

14 The query results are displayed in the ***MIB Query 1*** view in the Details window (Figure 17).

Note: To display query results in the ***MIB Query 2*** view of the Details window, check the ***Output to MIB Query 2*** checkbox in the MIB Query dialog box before starting the query.

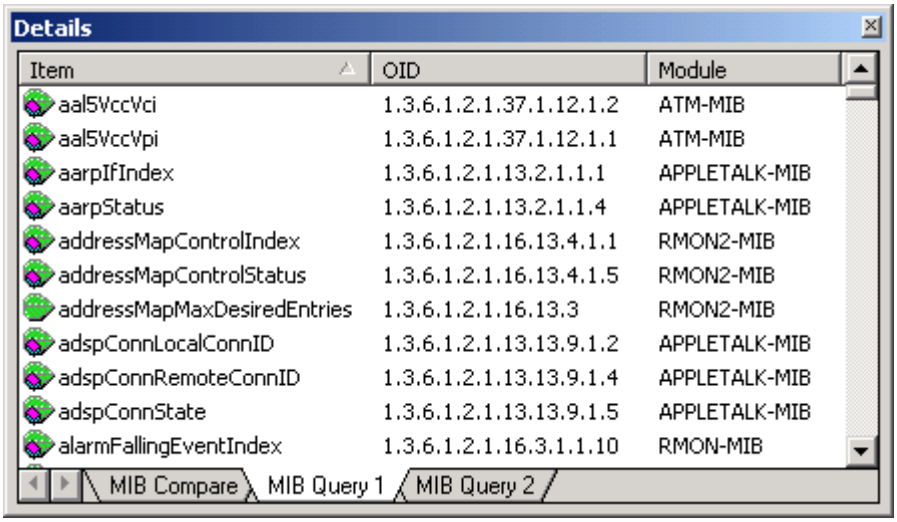


Figure 17: Details window, MIB Query 1 tab

3.6.2 Specifying Search Details

Depending on the item selected in the ***Search in*** drop-down list (Figure 13), you will have to specify some further details in the ***Search Details*** drop-down lists. There are three ***Search details*** drop-down lists.

The number of available ***Search Details*** drop-down lists depends on the node type and the node property selected in the ***Item type*** and ***Search in*** drop-down lists. If you select an item (MIB object) and a property (clause) for which more sub-properties exist, more ***Search Details*** drop-down lists will be available.

Example:

1 From the ***Item type*** drop-down list, select the `OBJECT-TYPE`.

2 From the ***Search in*** drop-down list, select the `Size list`.

3 From the ***Search details 1*** drop-down list, select the `Max size.`

4 Enter the `255` into the ***Search for*** input line and select the = from the accompanying drop-down list.

5 See the filter properties specification in Figure 18.

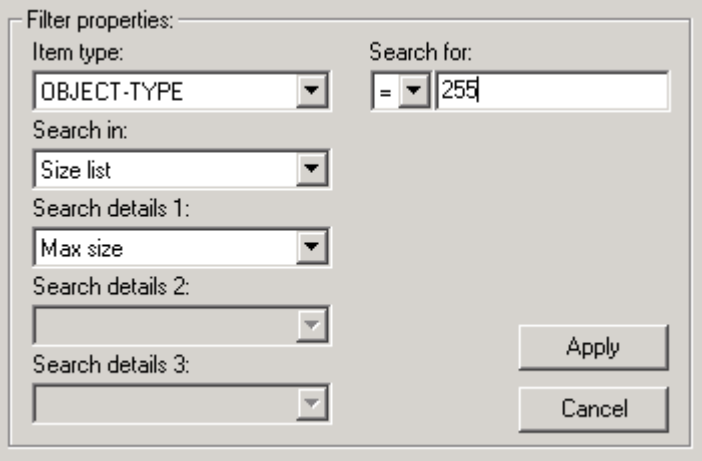


Figure 18: Filter Properties frame in the MIB Query dialog box

3.6.3 Selecting Custom Modules for the Query

You can choose which MIB modules will be included in the query by selecting the appropriate radio button in the ***Search in*** frame (Figure 19) in the MIB Query dialog box. If you select the ***Registered modules*** radio button, all registered MIB modules will be searched. This option is set by default.

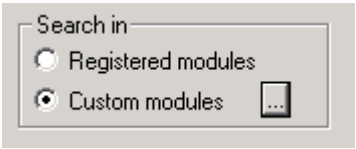


Figure 19: Search In frame in the MIB Query dialog box

1 If you want to manually select the MIB modules that will be searched, select the ***Custom modules*** radio button and click the browse button (**...**) next to it.

2 The **Select MIB Modules to Include in MIB Query** dialog box opens (Figure 20).

Note: If you have selected the modules for the query before opening the Query dialog box and then used the ***MIB Query | Selected*** pop-up command, the Custom modules option will be automatically selected and will include all MIB modules you have pre-selected. If you click the browse button next to the Custom modules option, the Select MIB Modules To Include In MIB Query dialog box opens, displaying the modules you have selected in the Search In list.

3 Specify MIB modules that you want to include in the query by using the ***Add*** (>>) and ***Remove*** (<<) arrow buttons or by double-clicking MIB modules.

Note: You can also add a MIB group to the selection. To do this, switch to the **MIB Groups** tab and select a MIB group by using the >> and << arrow buttons or by double-clicking the selected group.

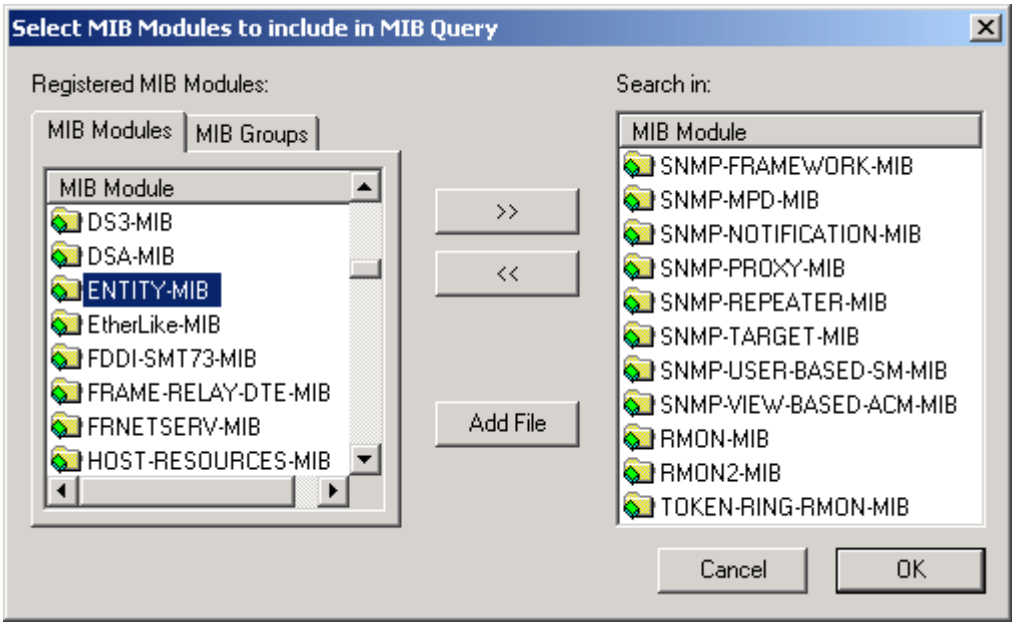


Figure 20: Select MIB Modules to Include in MIB Query dialog box

4 If you want to include MIB modules that are not registered on your computer, use the ***Add File*** button.

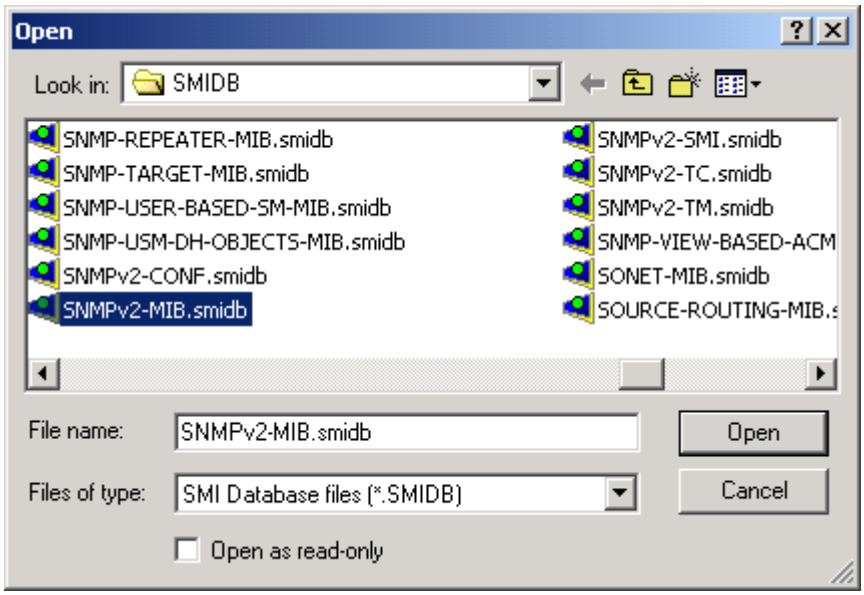


Figure 21: Open dialog box

5 This will open the Open dialog box (Figure 21).

6 Click a MIB module (or multiple modules) you want to include in the query and click the ***OK*** button.

7 The selected MIB module file path will be displayed in the ***Search in*** frame of the **Select MIB Modules To Include In MIB Query** dialog box.

8 Now, in the **Select MIB Modules To Include In MIB Query** dialog box, click the ***OK*** button.

9 The **Select MIB Modules To Include In MIB Query** dialog box closes and you can click the ***Query*** button to start the query.

4 CREATING MIB REPORTS AND EXPORTING MIB MODULES

MIB Explorer lets you export MIB definitions to a number of well-known file formats, like HTML, Dynamic HTML, XML, XML Schema, PDF, TXT, NETCONF YANG, and MOSY-compatible format, in order to examine or use MIB modules in applications that support these formats.

MIB Explorer also lets you generate HTML reports and fully customizable user-defined reports, containing arbitrary information about MIB modules. An HTML report enables you to view the basic information about the MIB module and explore its MIB tree, SMI definitions, MIB dependencies, and properties of selected types of MIB objects (defined in the MIB module) by using a web browser. MIB Explorer also incorporates a user-friendly Report Wizard, which can help you specify parameters for generating report file(s) in a few simple steps.

4.1 Running Report Wizard

The Report Wizard is a MIB Explorer feature that will help you create MIB module report files in different formats. It guides you through several steps of choosing options for the file generation.

You can create reports either for all registered MIB modules or only for the selected ones. In the first case, select the ***Modules | Report Wizard | All*** menu command. In the latter case, in the Modules window, select the MIB modules you want to create reports for and use the ***Modules | Report Wizard | Selected*** menu command.

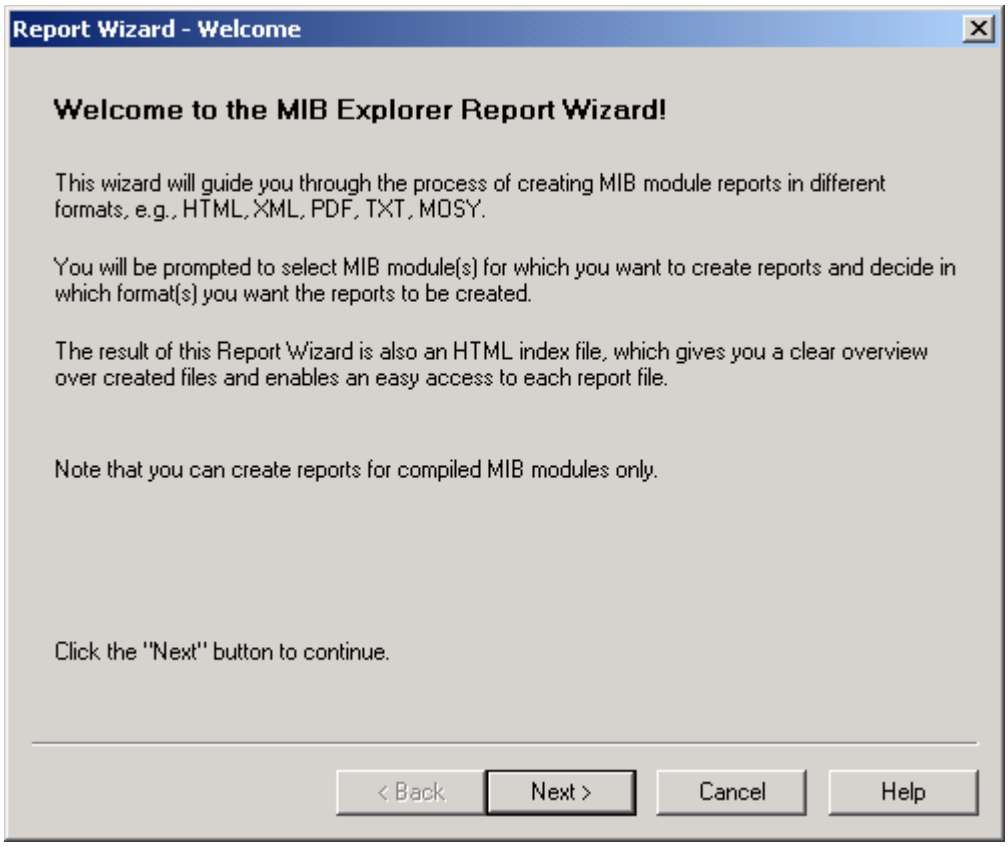


Figure 22: Report Wizard - Welcome screen

After selecting one of these commands, the Report Wizard Welcome screen will appear (Figure 22).

Clicking the ***Next*** button displays the Report Wizard MIB Module Selection screen (Figure 23). All the modules you have already selected are displayed in the Selected MIB Modules list.

> **Tip:** To create reports for additional MIB modules, select them in the left panel and click the ***Add*** (>>) button to add them to the Selected MIB modules list. Similarly, you can use the ***Remove*** (<<) button to remove one or more selected MIB modules from the list of selected MIB modules.
>
> If you have selected the ***All*** option in the first place, all registered MIB modules are displayed in the Selected MIB modules list.

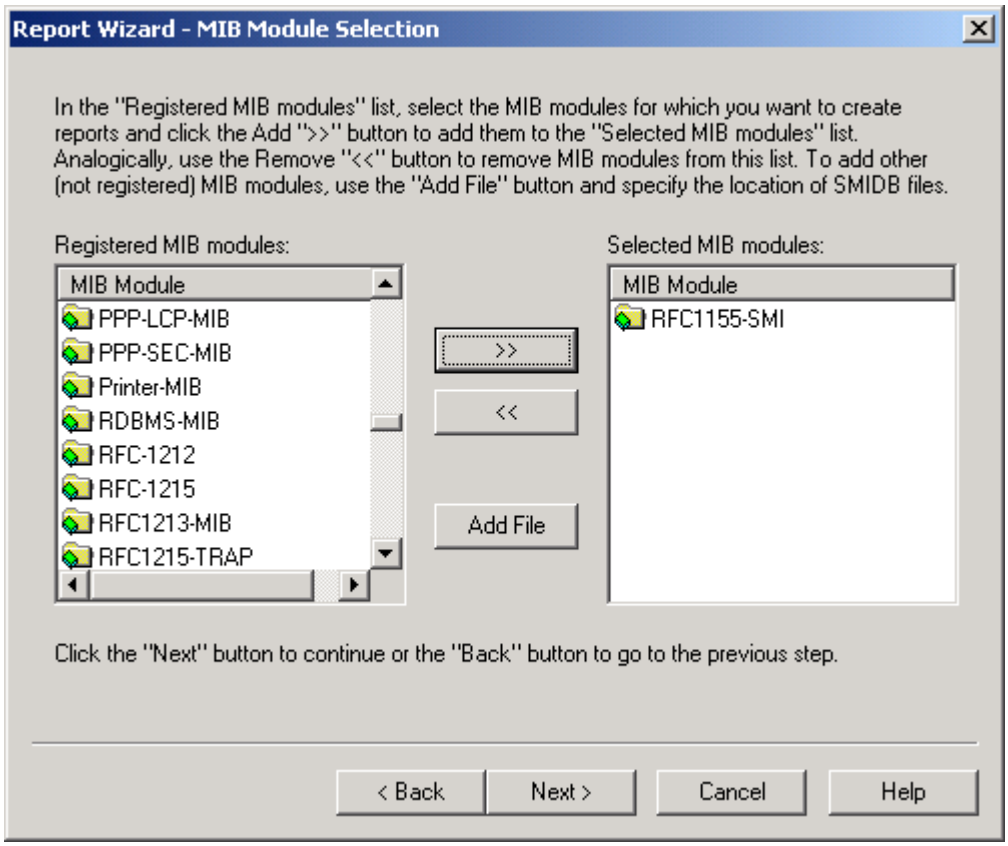


Figure 23: Report Wizard - MIB Module Selection screen

In the next (Report Wizard - Reports) screen (Figure 24), select the type of the report you want the Report Wizard to generate.

- Use the ***Generate reports in all supported file formats*** option if you want the Report Wizard to create files in all available formats and include all available information. In the next step (Figure 25), you will have to specify location for the report files.
- If you click the ***Generate reports in below specified file formats*** radio button, Report Wizard will generate reports in the file formats you will indicate by checking

the corresponding checkboxes. In the next step (Figure 25), you will have to specify location for the report files.

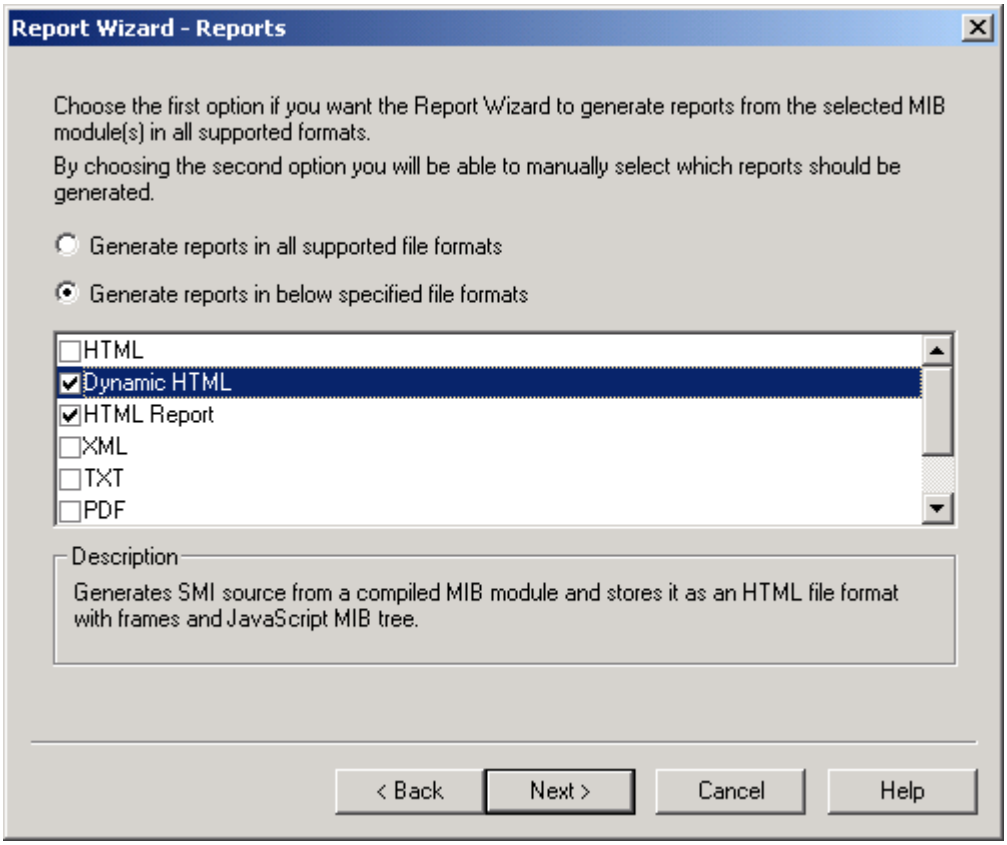


Figure 24: Report Wizard - Reports screen

Note: If you choose the HTML Report option, you will be prompted to specify some additional details in the next step. For more information, read the Creating Custom HTML Report chapter of this manual.

4.1.1 Creating Full Report

Creating a full report means that all information about the selected MIB modules will be included into report files and besides reports in all available formats (except the custom format), an HTML index file that includes hyperlinks to all generated files will be created as well.

To create a full report:

1 Select the modules for which you want to create a report.

2 Use the ***Report Wizard | Selected*** pop-up command.

Tip: To create full reports for all registered MIB modules, use the ***Report Wizard | All*** pop-up command.

3 The Welcome screen is now displayed. Click the ***Next*** button.

4 In this screen (Figure 23) you can see all selected MIB modules displayed in the ***Selected MIB modules*** list. Optionally, add or remove MIB modules from the list by using the ***Add*** and ***Remove*** arrow buttons.

5 Click the ***Next*** button.

6 This will bring you to the Reports screen (Figure 24). Select the ***Generate all supported file formats*** radio button and click the ***Next*** button.

7 The ***Files Location*** screen appears (Figure 25).

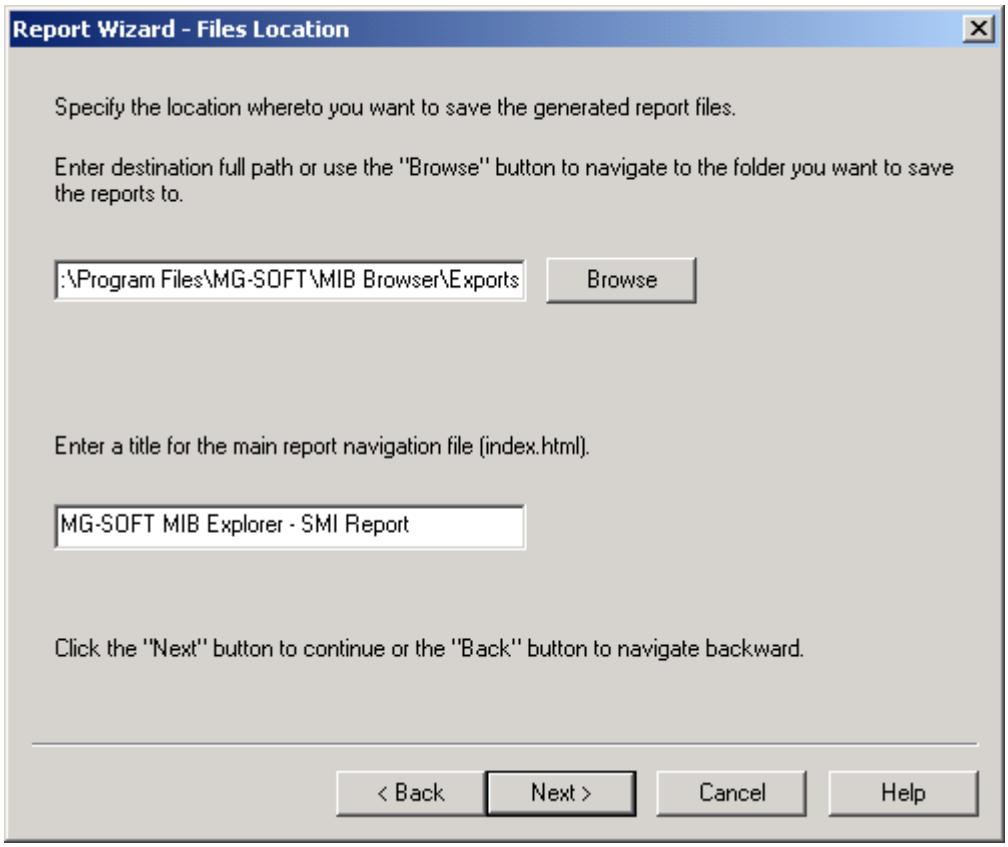


Figure 25: Report Wizard - Files Location screen

8 Specify the destination folder for the report files into the first input line and a name for the navigation (index) file into the second input line. Then, click the ***Next*** button.

9 The Finish screen appears (Figure 26) displaying all the settings you have made.

10 Use the ***Back*** button if you want to make some changes or click the ***Finish*** button.

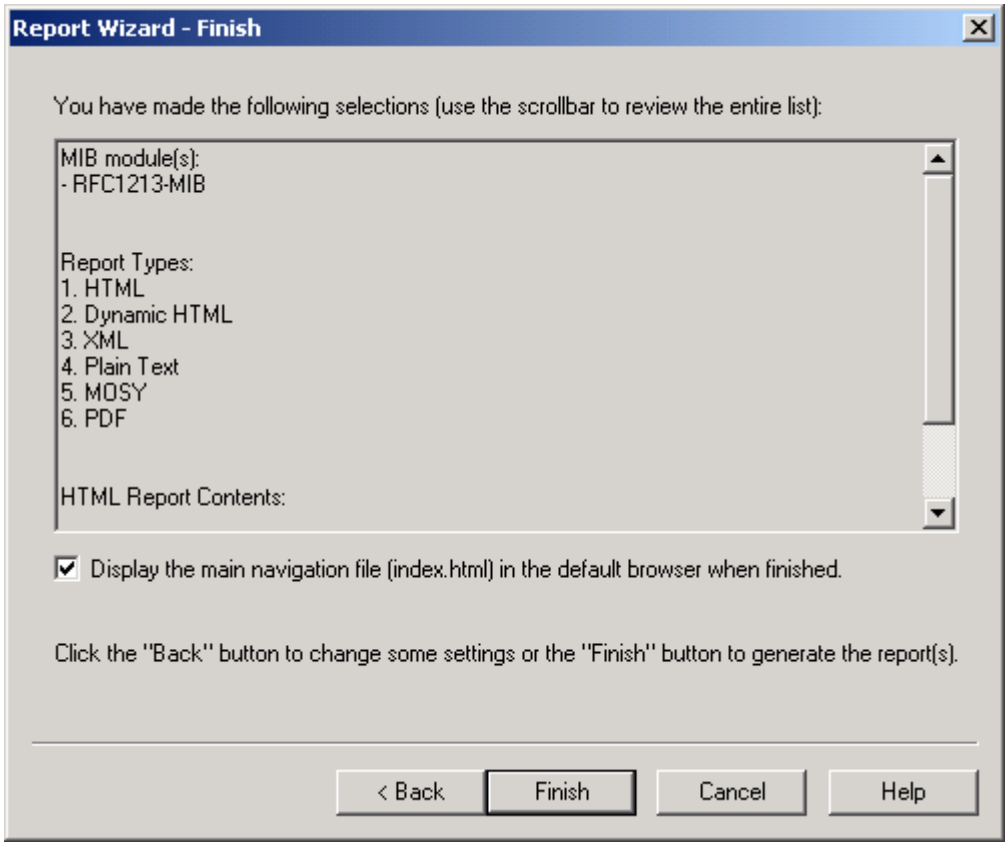


Figure 26: Report Wizard - Finish screen

11 The ***Report Wizard Progress*** dialog box appears (Figure 27), informing you about the progress of generating report files.

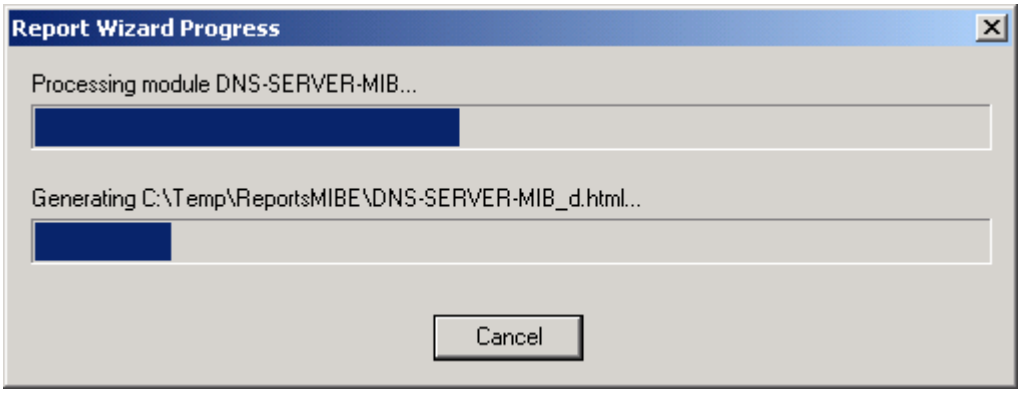


Figure 27: Report Wizard Progress

12 When finished, an HTML index file (`index.html`) is generated and saved to the same folder as report files. It gives you a clear overview over all created reports and enables easy access to each of them.

> **Note:** For more information see the Viewing MIB Report Files section of this manual.

4.1.2 Creating Custom HTML Report

Creating a custom HTML report means that you can specify which MIB module information to include into the HTML Report.

To create a custom report:

1 Select the modules for which you want to create an HTML report.

2 Use the ***Report Wizard | Selected*** pop-up command.

> **Note:** To create reports for all registered MIB modules, use the ***Report Wizard | All*** pop-up command.

3 The Welcome screen is now displayed. Click the ***Next*** button.

4 In the MIB Module Selection screen (Figure 23), you can see all selected MIB modules displayed in the ***Selected MIB modules*** list. Optionally, add or remove MIB modules from the list by using the ***Add*** and ***Remove*** arrow buttons.

5 When you are satisfied with the selection, click the ***Next*** button.

6 This will bring you to the Reports screen (Figure 24). Select the ***Generate below specified file formats*** radio button, check the ***HTML Report*** checkbox and click the ***Next*** button.

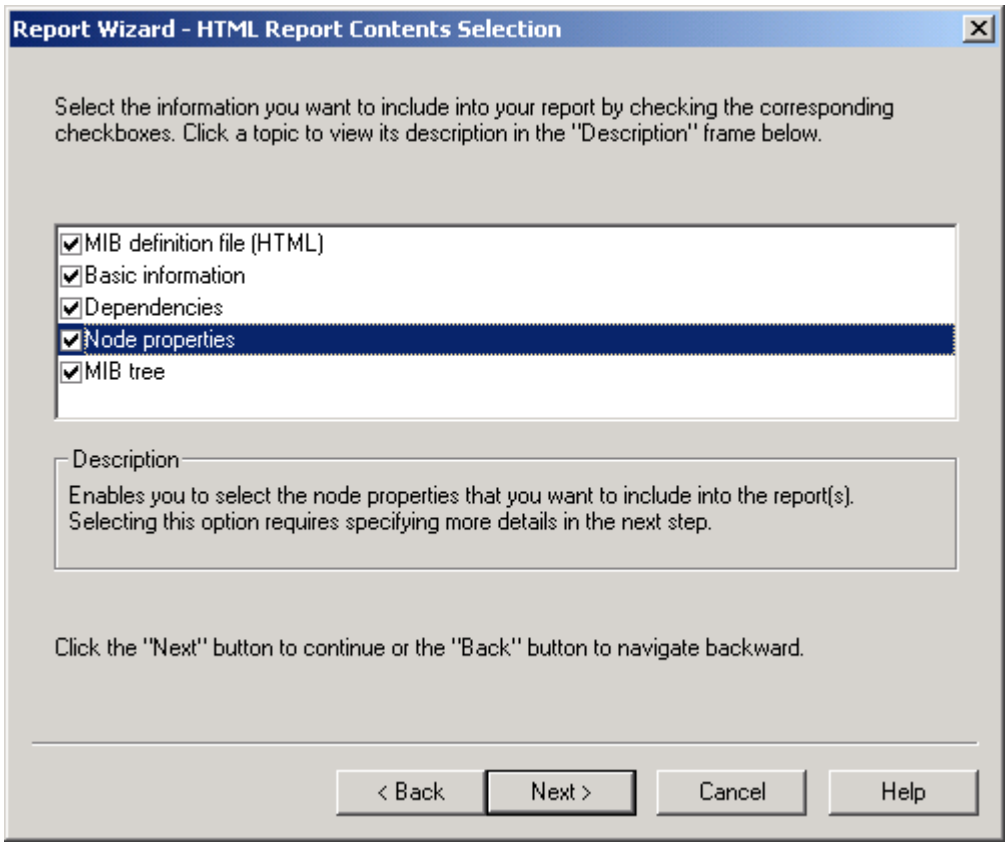


Figure 28: Report Wizard Contents Selection screen

7 In the HTML Report Contents Selection screen (Figure 28), select the contents of your report by checking the corresponding checkboxes. After you have made the selection, click the ***Next*** button.

8 If you have checked the ***Node Properties*** checkbox in the previous step, you are now looking at the HTML Report Node Properties screen (Figure 29). If that checkbox is unchecked, you are now looking at the Files location screen and you can skip this step.

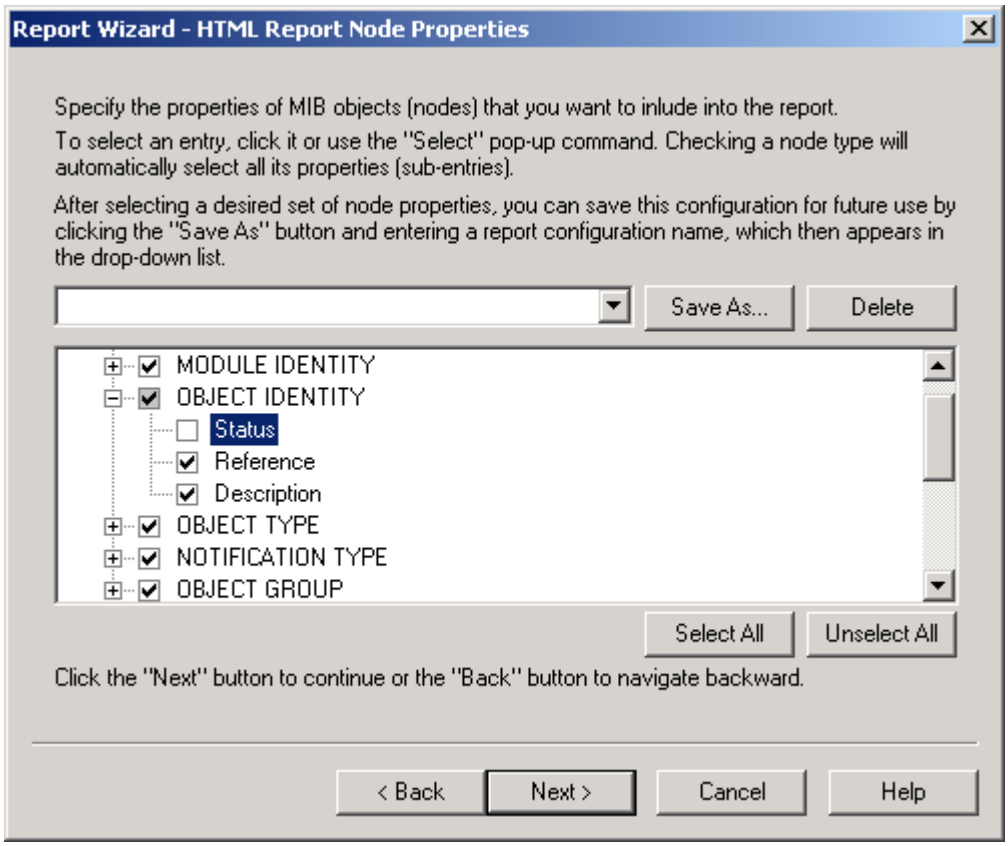


Figure 29: Report Wizard Node Properties screen

> **Tip:** Use the ***Save As*** button to save a desired set of node properties. Later, you can reopen this configuration by selecting the name (under which you have saved it) from the drop-down list.

9 Specify the node properties, which you want to include into the report. After you have made the selection, click the ***Next*** button.

10 In the Files Location screen (Figure 25) , enter whereto you want to save the HTML report and MIB definition files. After specifying the location, click the ***Next*** button.

11 The summary of the selections made is now displayed on the Finish screen (Figure 26).

12 If you are now satisfied with your selections, click the ***Finish*** button in order for MIB Explorer Report Wizard to generate the report.

13 The created reports are stored to a folder specified in the Files Location screen. If you have checked the ***Display the report(s) in the default browser when finished*** checkbox, the HTML index file is as soon as generated automatically displayed in your default web browser.

4.2 Exporting MIB Modules

MIB Explorer lets you export MIB module definitions to a number of well-known file formats, like HTML, Dynamic HTML, XML, XML Schema, PDF, TXT, MOSY-compatible, and NETCONF YANG format, in order to examine or use MIB modules in applications that support these file formats. Additionally, MIB Explorer can also generate HTML reports and custom reports containing arbitrary information about selected MIB modules in HTML and user-defined format, respectively. Finally, the software lets you export MIB tree containing the hierarchy and user-specified node information (e.g., name, OID, syntax, access, etc.) to a plain ASCII file.

You can access the export commands from the MIB Modules, MIB Group and MIB Dependencies windows, using the ***Export*** pop-up commands or the ***Modules | Export*** menu commands. Additionally, you can export MIB modules also from the command prompt.

Note: Another option to export MIB modules to one or more formats stated above is to use the Report Wizard (**`Modules | Report Wizard`**). For more information about running the Report Wizard, see the Running Report Wizard section of this manual.

Tip: When exporting a MIB module, it is often useful to export also all MIB modules on which the selected MIB module depends (i.e., from which it imports certain definitions). To determine which are those modules, search for its dependencies. For more information about searching for MIB dependencies, refer to the Searching for MIB Module Dependencies section of this manual.

4.2.1 HTML Export

The **Export to HTML** operation exports the definition of the MIB module to HTML format. The generated HTML file contains hyperlinks pointing to MIB object definitions and import statements declared within the same and other exported MIB modules (when exporting a group of dependent MIB modules at the same time). When the HTML file is generated, you can open it in a web browser and simply follow the hyperlinks to quickly locate sections in the MIB definition file(s) where particular MIB objects are defined or imported.

To export a MIB module definition to HTML format:

1 In the Modules window, select one or more MIB modules you want to export (e.g., `RFC1213-MIB`).

2 Use the ***Export | Export to HTML*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

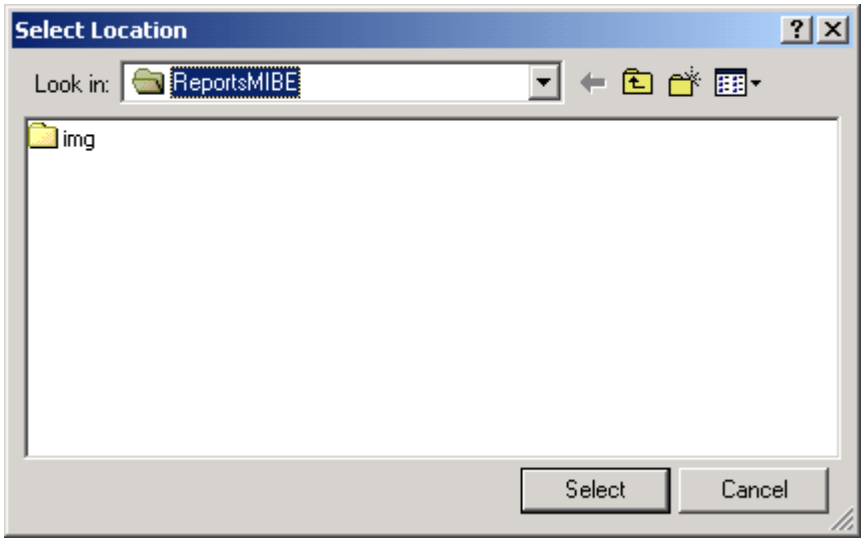


Figure 30: Select Location dialog box

4 Specify the directory whereto you wish the generated html file(s) to be saved and click the ***Select*** button.

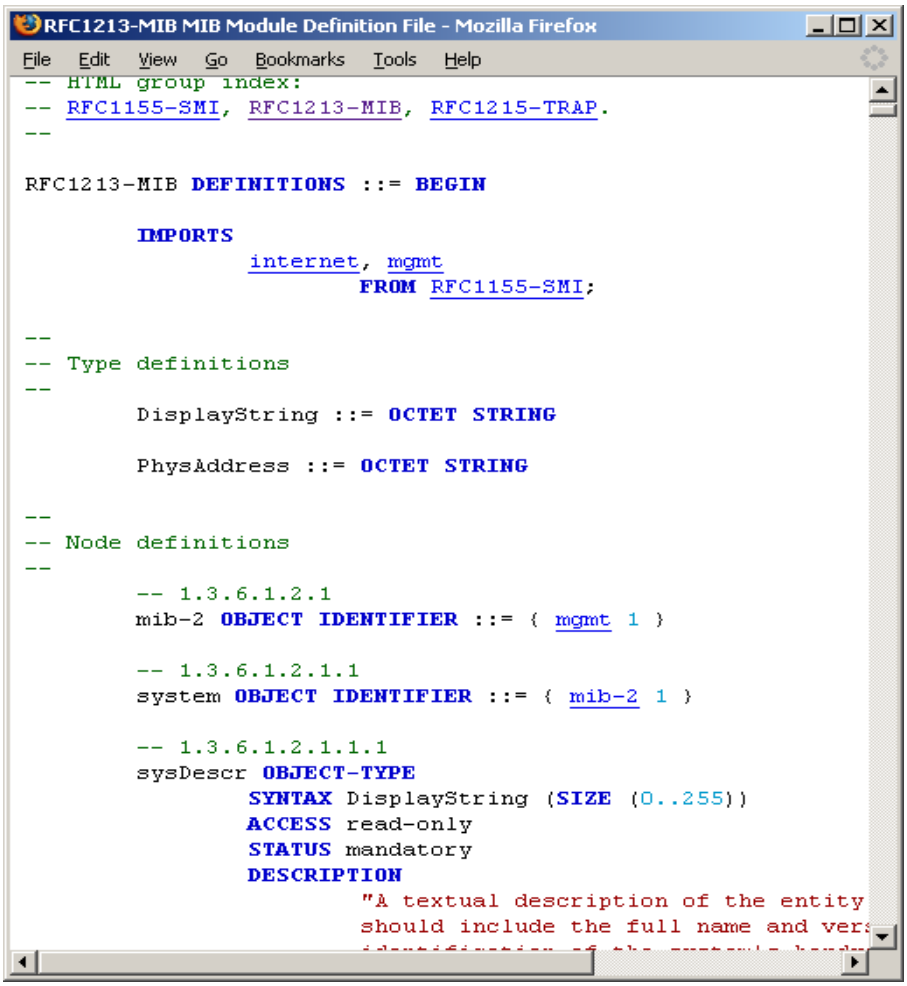


Figure 31: Viewing a generated HTML file in web browser

Note: The generated file carries the name of the MIB module and the `.html` file name extension (e.g., `RFC1213-MIB.html`). If the file with that name already exists in the destination folder, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation.

5 An HTML file for each selected MIB module is generated (Figure 31) and stored in the selected folder.

Note: HTML files that have been exported at the same time and stored to the same folder are linked.

4.2.2 Dynamic HTML Export

If your Web browser supports frames, JavaScript and CSS (Cascading Style Sheets), the **Export to Dynamic HTML** can be a convenient export option, because in addition to MIB module definition in HTML format, it also generates a JavaScript, which displays an interactive (expandable and clickable) MIB tree when viewing the HTML file in a web browser. The MIB tree lets you explore graphically presented tree structure of the MIB module and enables easier navigation.

To export MIB modules to Dynamic HTML format:

1 In the Modules window, select one or more MIB modules you want to export (e.g., `RMON-MIB`).

2 Use the ***Export*** **|** ***Export to Dynamic HTML*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated dynamic HTML file(s) to be saved and click the ***Select*** button.

5 A dynamic HTML file is generated for every selected MIB module (Figure 32) and stored to the specified location.

Tip: To expand the hierarchical tree structure, use the ***Expand*** toolbar button, or use the ***Collapse*** toolbar button in order to collapse it.

Note: The name of the generated file obtains the `_d` suffix and the `.html` extension (e.g., `RMON-MIB_d.html`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation.

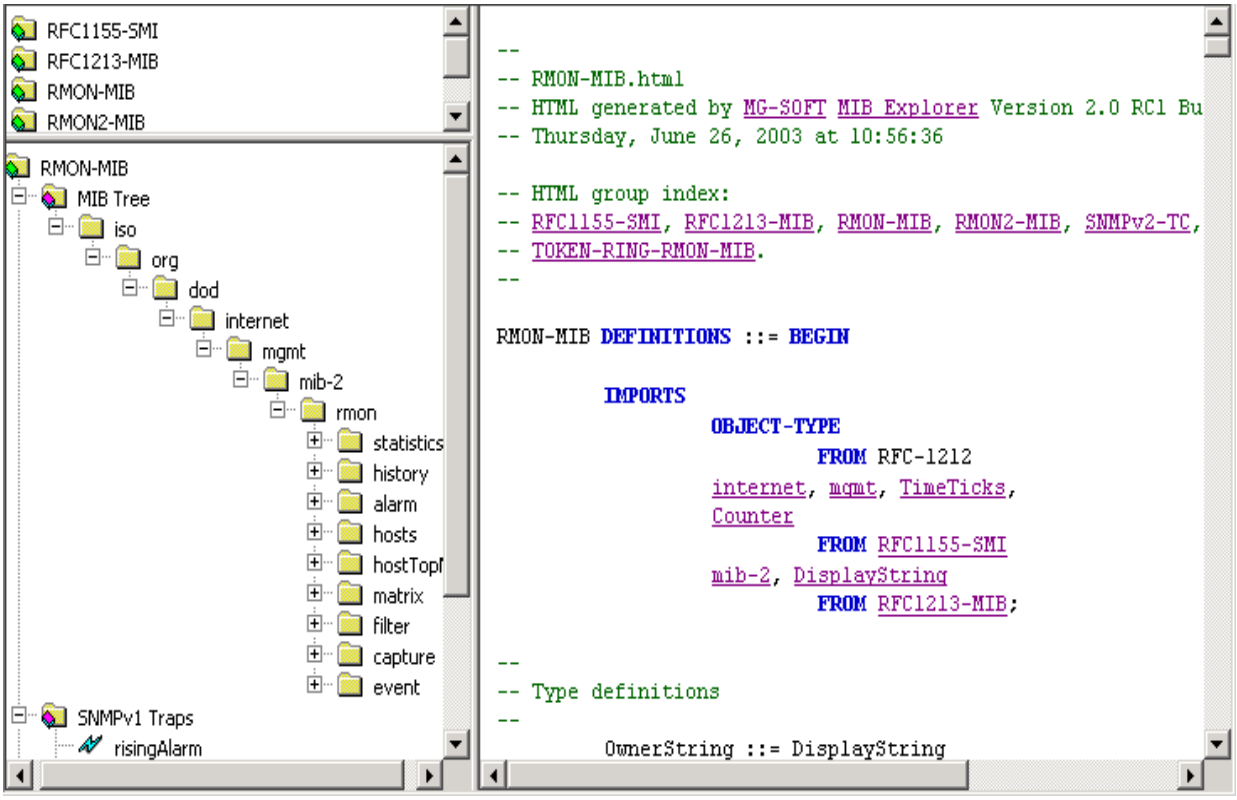


Figure 32: Viewing a generated dynamic HTML file in web browser

Note: HTML files that have been exported at the same time and stored to the same folder are linked.

4.2.3 HTML Report Export

The Export to HTML Report option generates an HTML report file, which contains user-selected information about the MIB module.

To create an HTML Report for a MIB module:

1 In the Modules window, select the MIB module you want to create an HTML report for (e.g., SONET-MIB).

2 Use the ***Export | Export to HTML Report*** pop-up command.

3 This will bring you to the Report Wizard - HTML Report Contents Selection screen (Figure 28).

4 Specify the node properties that you want to include into the report. After you have made the selection, click the ***Next*** button.

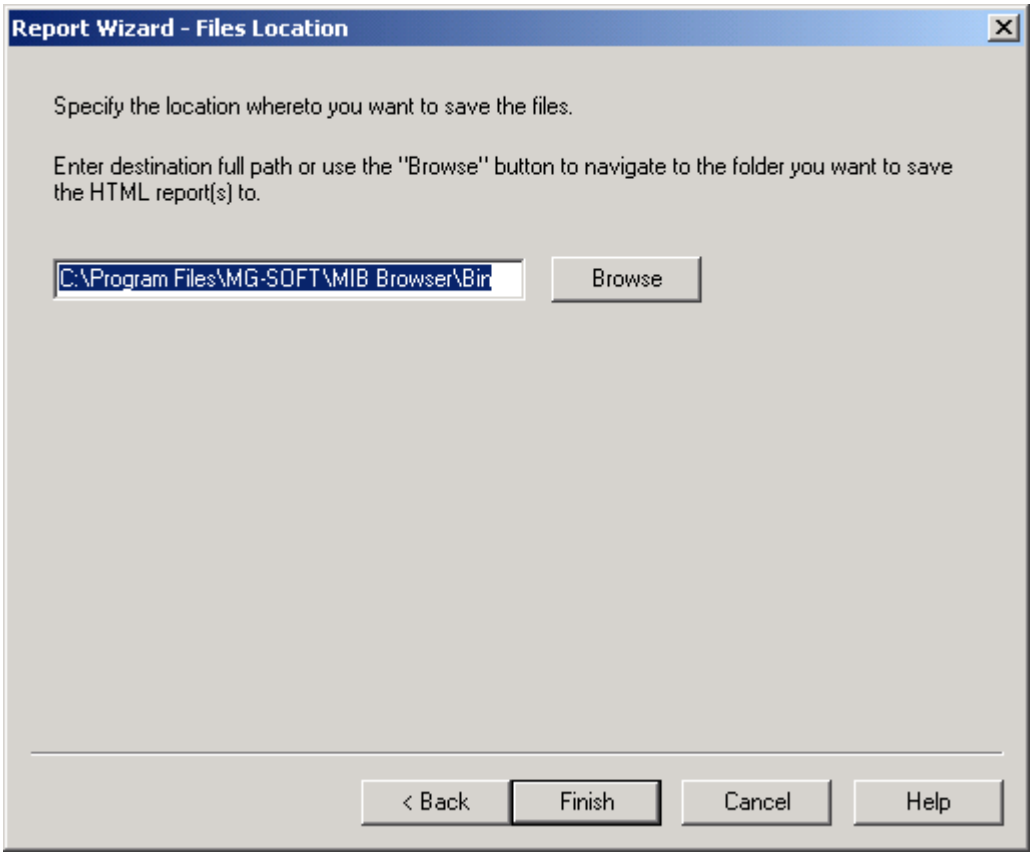


Figure 33: Report Wizard - Files Location screen

5 In this step (Figure 33), specify location for the file(s) into the input line.

6 Click the ***Finish*** button.

7 The HTML Report is now created (Figure 34).

> **Note:** The generated file obtains the `_rep` file name suffix and the `.html` extension (e.g., `SONET-MIB_rep.html`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation.

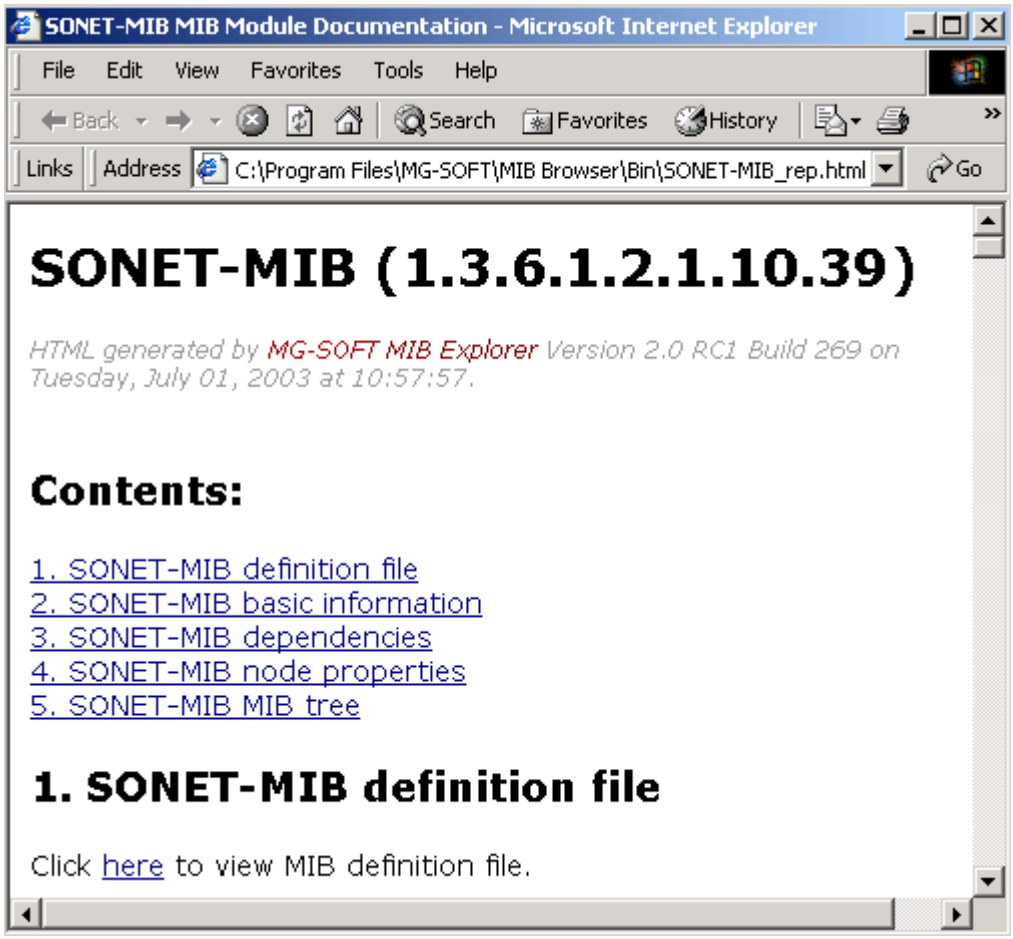


Figure 34: Viewing a HTML report in Web browser

Note: HTML files that have been exported at the same time and stored in the same folder are linked.

4.2.4 XML Export

The **Export to XML** operation generates a MIB definition file in XML format from the selected MIB module. Besides, it also generates an XML DTD (Document Type Definition) file for validating SMI MIB definition files in XML format.

To export a MIB module to XML format:

1 In the Modules window, select the MIB module you want to export (e.g., `SNMPv2-TC`).

2 Use the ***Export | Export to XML*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated XML files to be saved and click the ***Select*** button.

Note: The generated file carries the name of the MIB module and the `.xml` file name extension (e.g., `SNMPv2-TC.xml`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation. In addition to the .xml file, a corresponding DTD file (`smi.dtd`) is generated as well.

5 An XML file is generated (Figure 35) and stored to the specified location.

```
<?xml version="1.0" encoding="US-ASCII"?>
<!DOCTYPE smi SYSTEM "SMI.DTD">
<!--SNMPv2-TC.xml-->
<!--XML generated by MG-SOFT MIB Explorer Version 2.0 RC1 Build 271-->
<!--Friday, July 04, 2003 at 14:56:11-->
<smi>
        <module name="SNMPv2-TC" language="SMIv2" />
        <typedefs>
                <typedef name="DisplayString" basetype="OCTET STRING"
                                        <range min="0" max="255" />
                        <description>
                        <![CDATA[Represents textual information taken
character set, as defined in pages 4, 10-11 of RFC 854.

To summarize RFC 854, the NVT ASCII repertoire specifies:
```

Figure 35: Example of a (part of) generated XML file

4.2.5 XML Schema Export

The **Export to XML Schema** operation generates an XML schema file (.xsd) from the selected MIB module. The XML schema file allows exchanging and validating MIB-related data in XML (in applications that support this).

To export a MIB module to an XML Schema format:

1 In the Modules window, select the MIB module you want to export (e.g., `SNMP-TARGET-MIB`).

2 Use the ***Export | Export to XML Schema*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated XML schema file to be saved and click the ***Select*** button.

Note: The generated file carries the name of the MIB module and the `.xsd` file name extension (e.g., `SNMP-TARGET-MIB.xsd`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation.

```
<?xml version="1.0"?>
<!-- SNMP-TARGET-MIB.xsd -->
<!-- XML Schema generated by MG-SOFT MIB Explorer Version 2.0 Build 415 -->
<!-- Wednesday, January 19, 2005 at 20:23:11 -->

<xsd:schema xmlns="http://www.mg-soft.com/xsd/mibs/SNMP-TARGET-MIB"
            targetNamespace="http://www.mg-soft.com/xsd/mibs/SNMP-TARGET-MIB"
            xmlns:xsd="http://www.w3.org/2001/XMLSchema"
            xmlns:smi="http://www.mg-soft.com/xsd/mibs/smi.xsd"
            xmlns:SNMP-FRAMEWORK-MIB="http://www.mg-soft.com/xsd/mibs/SNMP-FRAMEWORK-MIB"
            xmlns:SNMPv2-CONF="http://www.mg-soft.com/xsd/mibs/SNMPv2-CONF"
            xmlns:SNMPv2-SMI="http://www.mg-soft.com/xsd/mibs/SNMPv2-SMI"
            xmlns:SNMPv2-TC="http://www.mg-soft.com/xsd/mibs/SNMPv2-TC"
            xml:lang="en"
            elementFormDefault="qualified"
            attributeFormDefault="unqualified">

  <xsd:annotation>
    <xsd:documentation>
        This MIB module defines MIB objects which provide
        mechanisms to remotely configure the parameters used
        by an SNMP entity for the generation of SNMP messages.

        Copyright (C) The Internet Society (2002). This
        version of this MIB module is part of RFC 3413;
```

Figure 36: Example of a generated XML schema file content

4.2.6 PDF Export

The **Export to PDF** operation exports MIB module definition to a PDF (Adobe Portable Document Format) file.

To perform PDF Export:

1 In the Modules window, select the MIB module you want to export (e.g., `RFC1155-SMI`).

2 Use the ***Export*** **|** ***Export to PDF*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated pdf files to be saved and click the ***Select*** button.

> **Note:** The generated file obtains the `.pdf` file name extension automatically (e.g, `RFC1155-SMI.pdf`). If the file with that name already exists, the MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file and ***No*** to cancel the operation.

5 A PDF file is generated (Figure 37) and stored in a specified location.

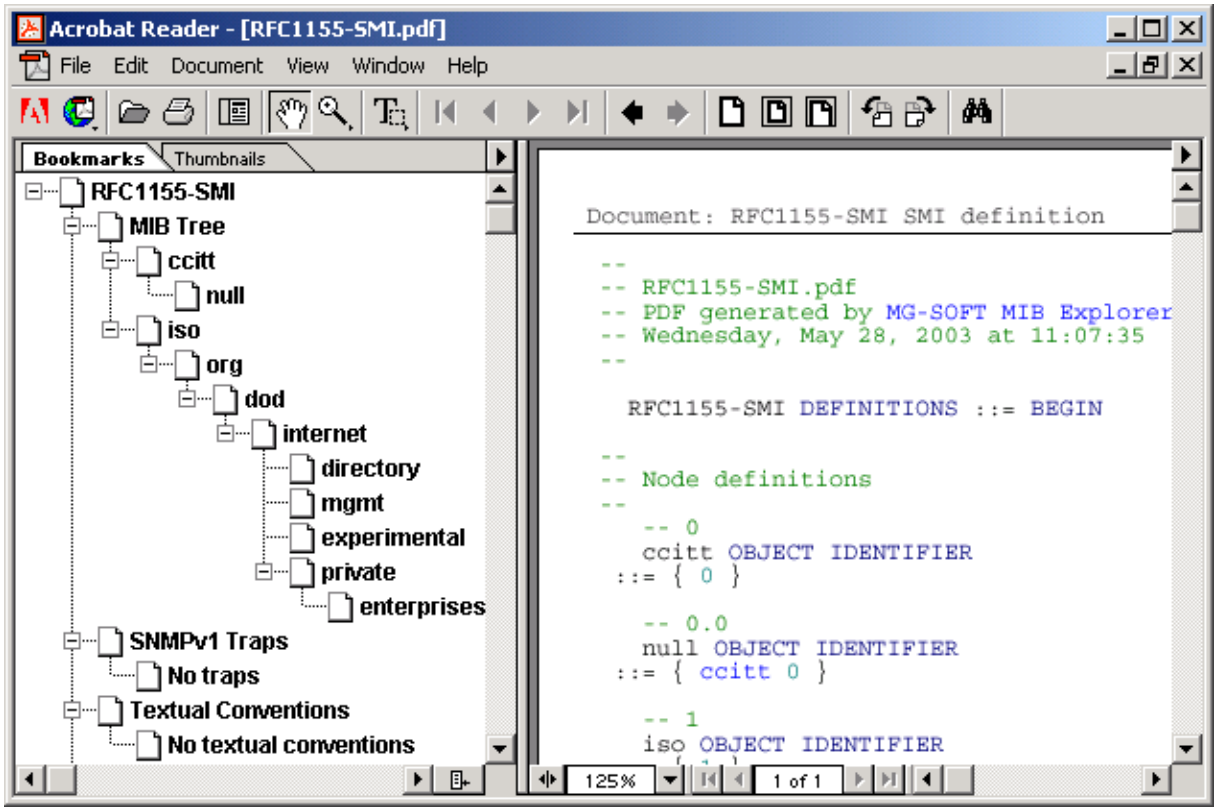


Figure 37: Viewing a generated PDF file

4.2.7 TXT Export

The Export to TXT command exports MIB module definition to plain ASCII text format.

To perform TXT Export:

1 In the Modules window, select the MIB module you want to export (e.g., `SNMPv2-SMI`).

2 Use the ***Export | Export to TXT*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated txt files to be saved and click the ***Select*** button.

> **Note:** The file name gets the `.txt` extension automatically. If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file and ***No*** to retreat.

5 A TXT file is generated (Figure 38) and stored in a specified location.

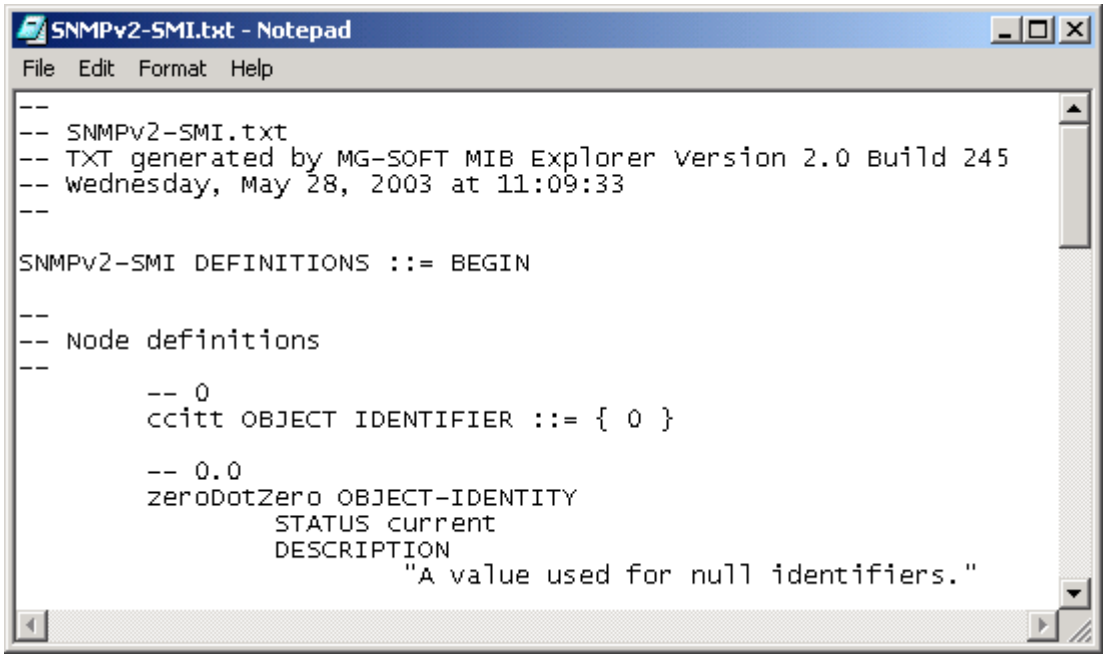


Figure 38: Example of a generated TXT MIB definition file content

4.2.8 MOSY Export

The **Export to MOSY** command exports MIB module definition to a MOSY-compatible MIB definition file.

To perform MOSY Export:

1 In the Modules window, select the MIB module you want to export (e.g., `RMON2-MIB`).

2 Use the ***Export | Export to MOSY*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated mosy files to be saved and click the ***Select*** button.

> **Note:** The generated file name obtains the `-mosy.txt` extension automatically (e.g., `RMON2-MIB-mosy.txt`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file and ***No*** to retreat.

5 A MOSY-compatible MIB definition file is generated (Figure 39) and stored in a specified location.

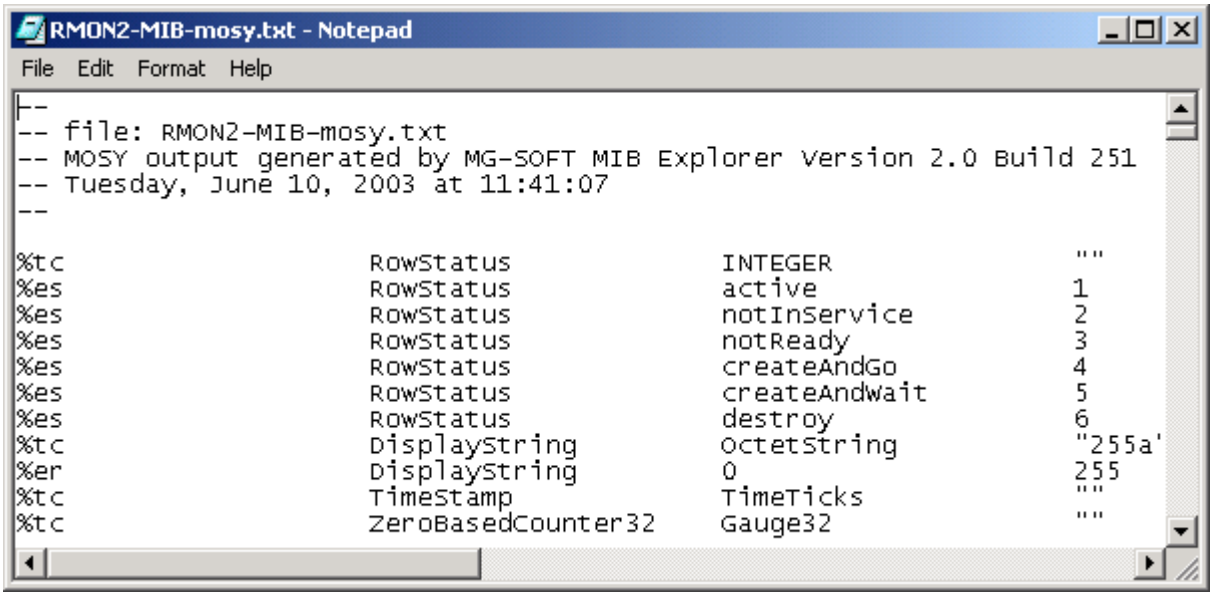


Figure 39: Example of a generated MOSY MIB definition file content

4.2.9 YANG Export

The **Export to YANG** command generates a NETCONF YANG module file (.yang) from the selected MIB module. The selected MIB module is translated into YANG module, enabling read-only access to data objects defined in MIB module via the NETCONF protocol. Generated YANG module(s) can be loaded and utilized in any application that supports loading YANG modules, like MG-SOFT NETCONF Browser Pro., MG-SOFT YANG Explorer Pro., MG-SOFT YANG Designer Pro., etc.

> **YANG** is a data modeling language for the Network Configuration Protocol (NETCONF).
>
> **YANG module** defines a hierarchy of data that can be used for NETCONF-based operations, including configuration, state data, Remote Procedure Calls, and notifications. Typically, a YANG module defines a tree of data elements that represent the configuration and runtime status of a particular network element managed via NETCONF. A YANG module is normally stored in a file with the `.yang` extension.

To perform YANG Export:

1 In the Modules window, select the MIB module(s) you want to export (e.g., `IF-MIB`).

2 Use the ***Export | Export to YANG*** pop-up command.

3 This will open the Select Location dialog box (Figure 30).

4 Specify the directory whereto you wish the generated YANG file(s) to be saved and click the ***Select*** button.

> **Note:** The generated file carries the name of the MIB module and the `.yang` file name extension (e.g., `IF-MIB.yang`). If the file with that name already exists, MIB Explorer asks you if you wish to overwrite it. Click ***Yes*** to overwrite the existing file or ***No*** to cancel the export operation.

5 A YANG module file is generated (Figure 40) and stored in a specified location.

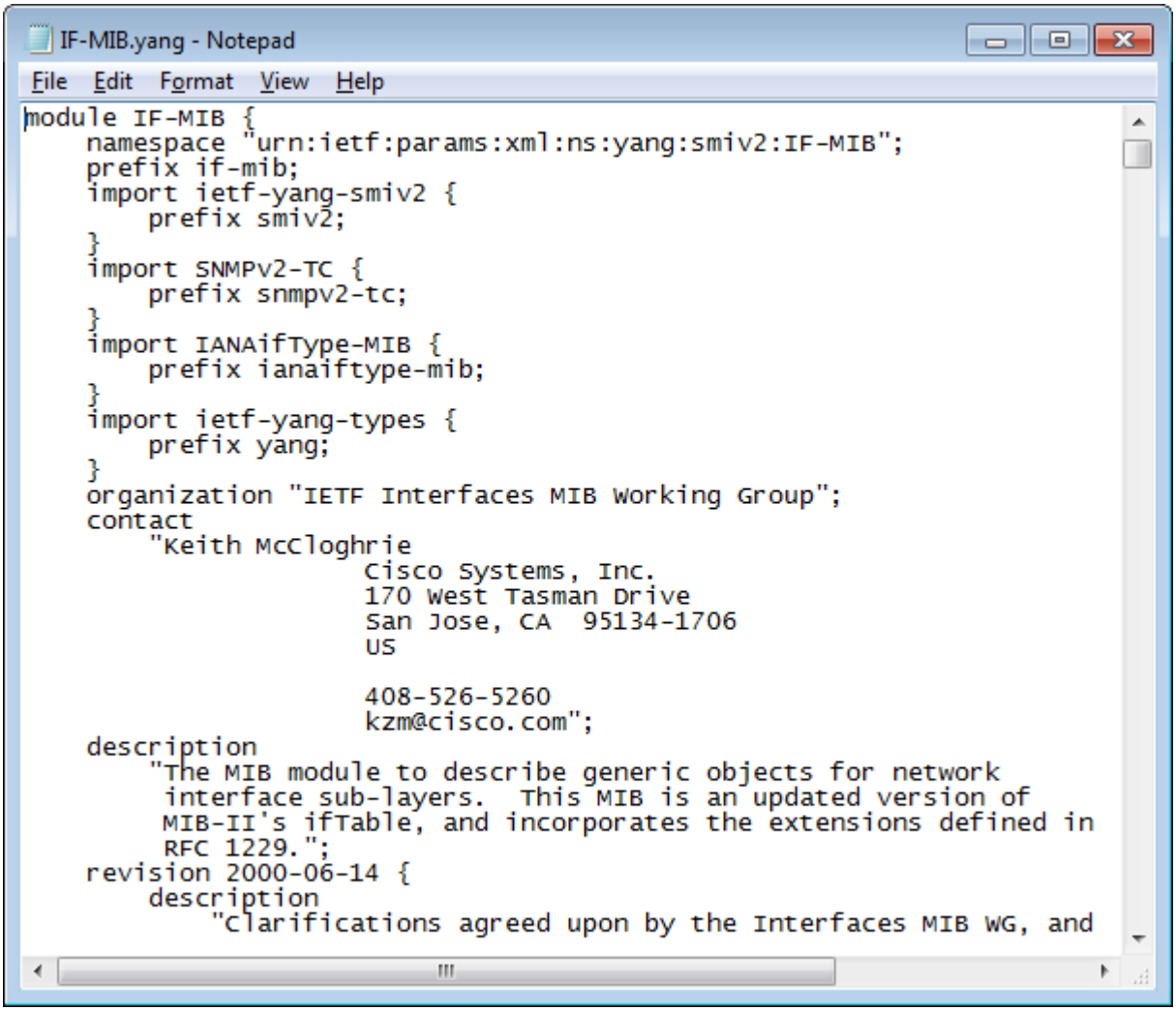


Figure 40: Example of a generated YANG file content

.

4.2.10 Custom Report Export

The **Export to Custom Report** command generates a plain text report file, which contains user-selected information from the MIB module and user-specified data formatting.

To create a Custom Report:

1 In the Modules window, select the MIB module you want to create a custom report for (e.g., `ADSL-LINE-MIB`).

2 Use the ***Export | Export to Custom Report*** pop-up command.

3 The Custom MIB Report dialog box appears (Figure 41), where you can specify what information (types of nodes and their properties) will be included into the report and how this information will be formatted (ordered, separated, appended with additional text, etc.).

4 In the ***Node Types*** frame, choose the type of node (e.g., `NOTIFICATION-TYPE`, `OBJECT-TYPE`, etc.) you wish to include into the custom report and check the checkbox in front of it (or check the ***Enable*** checkbox in the ***Formatting*** frame).

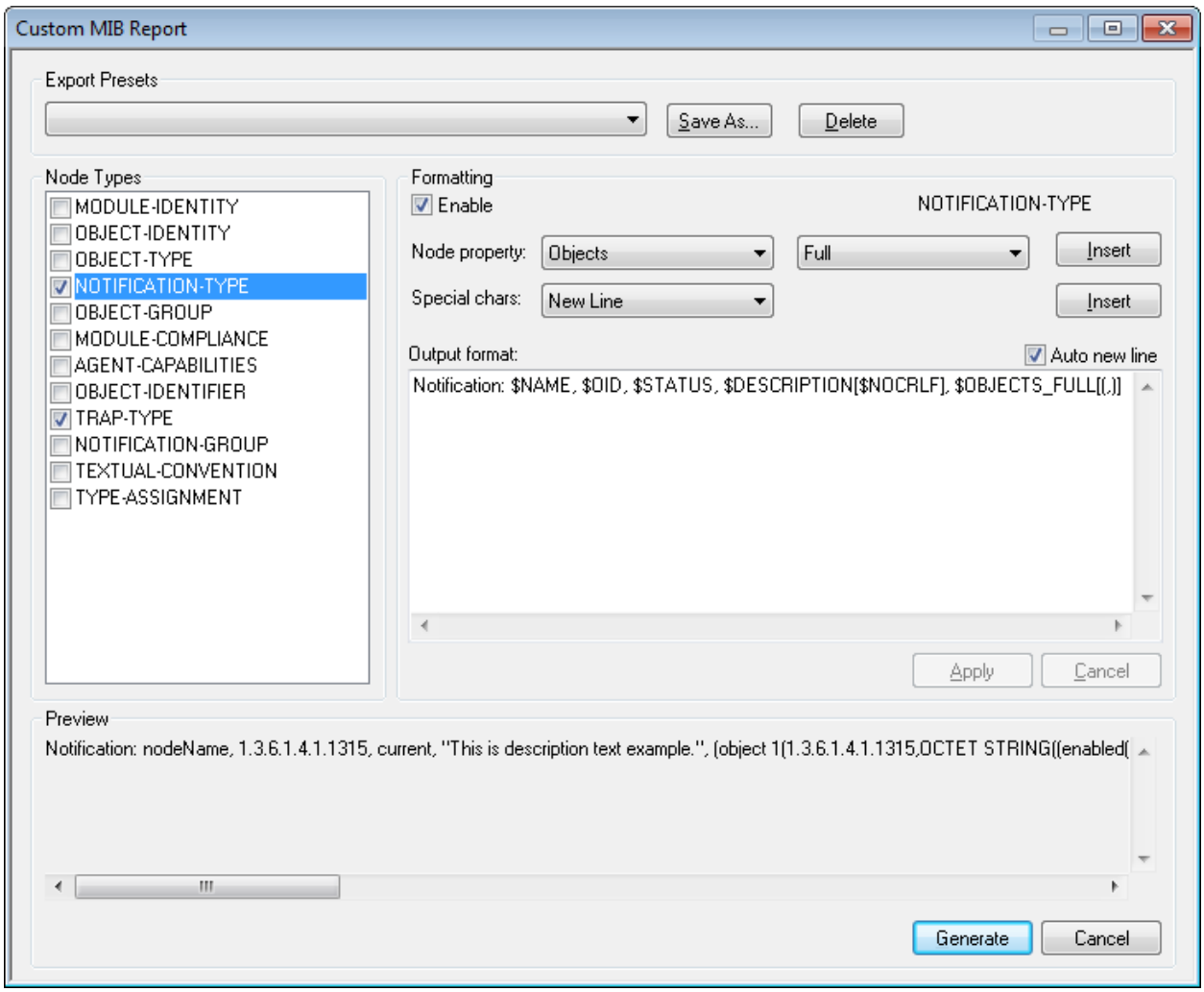


Figure 41: Custom MIB Report dialog box

5 In the ***Node property*** drop-down list, select the property of the node to be included into the report (e.g., `Name`), and click the ***Insert*** button next to it to insert the reserved word for the selected property into the ***Output format*** input field (e.g., reserved word for the `Name` property is `$NAME`). Some properties have additional options to be selected from the accompanying drop-down list. For example, if you select the `Objects` property of the `NOTIFICATION-TYPE` node, you need to select either the **`Full`** or **`Simple`** option from the accompanying drop-down list (Figure 41), to include full variable bindings details or only the names of variable bindings, respectively.

To include other properties (e.g., OID, module, status, syntax, description, etc.) of the same node type into the report, repeat the above procedure or type the relevant reserved words directly into the ***Output format*** input field.

All reserved words start with the "$" character. Reserved words are used as placeholders that are replaced with the actual properties of the matching nodes from the MIB module when the report file is generated. Reserved words for properties that can have more than one value (e.g., `Objects` property of the `NOTIFICATION-TYPE` node) let you set also the **value separation character**, e.g., comma {,}, and the **value enclosure characters**, e.g., round brackets ( ), by specifying these inside the angle brackets [ ]. For example, the following reserved word:

`$OBJECTS_SIMPLE[(,)]`

…will return the notification-type objects' names separated by comma and enclosed in round brackets, e.g.: `(ifIndex, ifAdminStatus, ifOperStatus)`

If you omit the angle brackets in reserved words for properties that can have multiple values (e.g., `$OBJECTS_SIMPLE),` the default value separation character (comma), and the default value enclosure characters (round brackets), are used.

> **Note:** Options available in the ***Formatting*** frame of the Custom MIB Report dialog depend on the entry selected in the ***Node Types*** frame. Settings in the ***Formatting*** frame that have been made for a particular type of node (e.g., `NOTIFICATION-TYPE`) apply only to this type of node.

6 Reserved words in the ***Output format*** input field can be edited and combined with arbitrary text and with reserved words for special characters (e.g., tabulation and line termination characters). To insert reserved word for a special character, choose an entry from the ***Special char*** drop-down list (e.g., `New Line`) and click the ***Insert*** button next to this drop-down list. Reserved word for the selected special character (`$CRLF`) will be added to the ***Output format*** input field.

> **Tip 1:** Non-printable special characters like space, tab and line break can be inserted also directly (without using the reserved words), by pressing the space, tab and enter keyboard buttons.
>
> **Tip 2:** Check the ***Auto new line*** checkbox if you want MIB Explorer to automatically add a line break to the end of expression in the ***Output format*** input field.

7 Click the ***Apply*** button under the ***Output format*** input field to see a preview of the generated output in the ***Preview*** frame in the lower part of the dialog box.

8 To include properties of other node types into custom report, repeat the procedure described in steps 4-7.

9 To save entire custom report configuration, click the ***Save As*** button in the upper part of the dialog and, into the dialog that appears, enter the name under which the configuration will be saved. Once a configuration is saved, you can easily retrieve it by selecting its name in the ***Export Presets*** drop-down list.

10 After setting desired options, click the ***Generate*** button.

11 This will open the standard Save As dialog box. Specify a destination folder a file name for the custom report and click the ***Save*** button.

12 The custom report file is generated and saved to the selected location. The generated file is a plain ASCII file, carrying the `.txt` file extension by default.

```
--
-- ADSL-LINE-MIB.txt
-- Custom Report generated by MG-SOFT MIB Explorer Version 5.1 Build 420
-- Monday, April 16, 2012 at 17:56:37
--

Notification: adslAtucPerfLofsThreshTrap, 1.3.6.1.2.1.10.94.1.2.1.0.1, current, Bindings: (adslAtucPerfCurr15MinLofs(1.3.6.1.2.1.10.94.1.1.6.1.10,Gauge32,
Notification: adslAtucPerfLossThreshTrap, 1.3.6.1.2.1.10.94.1.2.1.0.2, current, Bindings: (adslAtucPerfCurr15MinLoss(1.3.6.1.2.1.10.94.1.1.6.1.11,Gauge32,
Notification: adslAtucPerfLprsThreshTrap, 1.3.6.1.2.1.10.94.1.2.1.0.3, current, Bindings: (adslAtucPerfCurr15MinLprs(1.3.6.1.2.1.10.94.1.1.6.1.13,Gauge32,
Notification: adslAtucPerfESsThreshTrap, 1.3.6.1.2.1.10.94.1.2.1.0.4, current, Bindings: (adslAtucPerfCurr15MinESs(1.3.6.1.2.1.10.94.1.1.6.1.14,Gauge32,Pe
Notification: adslAtucRateChangeTrap, 1.3.6.1.2.1.10.94.1.2.1.0.5, current, Bindings: (adslAtucChanCurrTxRate(1.3.6.1.2.1.10.94.1.1.4.1.2,Gauge32,Gauge32,
Notification: adslAtucPerfLolsThreshTrap, 1.3.6.1.2.1.10.94.1.2.1.0.6, current, Bindings: (adslAtucPerfCurr15MinLols(1.3.6.1.2.1.10.94.1.1.6.1.12,Gauge32,
Notification: adslAtucInitFailureTrap, 1.3.6.1.2.1.10.94.1.2.1.0.7, current, Bindings: (adslAtucCurrStatus(1.3.6.1.2.1.10.94.1.1.2.1.6,BITS(noDefect(0),lc
Notification: adslAturPerfLofsThreshTrap, 1.3.6.1.2.1.10.94.1.2.2.0.1, current, Bindings: (adslAturPerfCurr15MinLofs(1.3.6.1.2.1.10.94.1.1.7.1.8,Gauge32,F
Notification: adslAturPerfLossThreshTrap, 1.3.6.1.2.1.10.94.1.2.2.0.2, current, Bindings: (adslAturPerfCurr15MinLoss(1.3.6.1.2.1.10.94.1.1.7.1.9,Gauge32,F
Notification: adslAturPerfLprsThreshTrap, 1.3.6.1.2.1.10.94.1.2.2.0.3, current, Bindings: (adslAturPerfCurr15MinLprs(1.3.6.1.2.1.10.94.1.1.7.1.10,Gauge32,
Notification: adslAturPerfESsThreshTrap, 1.3.6.1.2.1.10.94.1.2.2.0.4, current, Bindings: (adslAturPerfCurr15MinESs(1.3.6.1.2.1.10.94.1.1.7.1.11,Gauge32,Pe
Notification: adslAturRateChangeTrap, 1.3.6.1.2.1.10.94.1.2.2.0.5, current, Bindings: (adslAturChanCurrTxRate(1.3.6.1.2.1.10.94.1.1.5.1.2,Gauge32,Gauge32,
```

Figure 42: Example of a custom report file content

4.2.11 MIB Tree Export

The **Export MIB Tree** command generates a plain ASCII file, which contains the MIB tree hierarchy and the user-specified node information (e.g., name, OID, syntax, access, etc.).

To export MIB tree:

1 In the Modules window, select the MIB module you want to export (e.g., `ADSL-LINE-MIB`).

2 Use the ***Export | Export MIB Tree*** pop-up command.

3 The Export MIB Tree dialog box appears (Figure 41), where you can specify what information (types of nodes and their properties) will be included into the export file and how this information will be formatted (ordered, separated, appended with additional text, etc.).

4 In the ***Formatting*** frame, choose the type of node (e.g., `OBJECT-TYPE`, `OBJECT IDENTIFIER`, etc.) you wish to include into the MIB Tree export file and check the checkbox in front of it. By default, all node types are selected and the accompanying input lines are configured to include the name and last OID sub-identifier for each node into the export file.

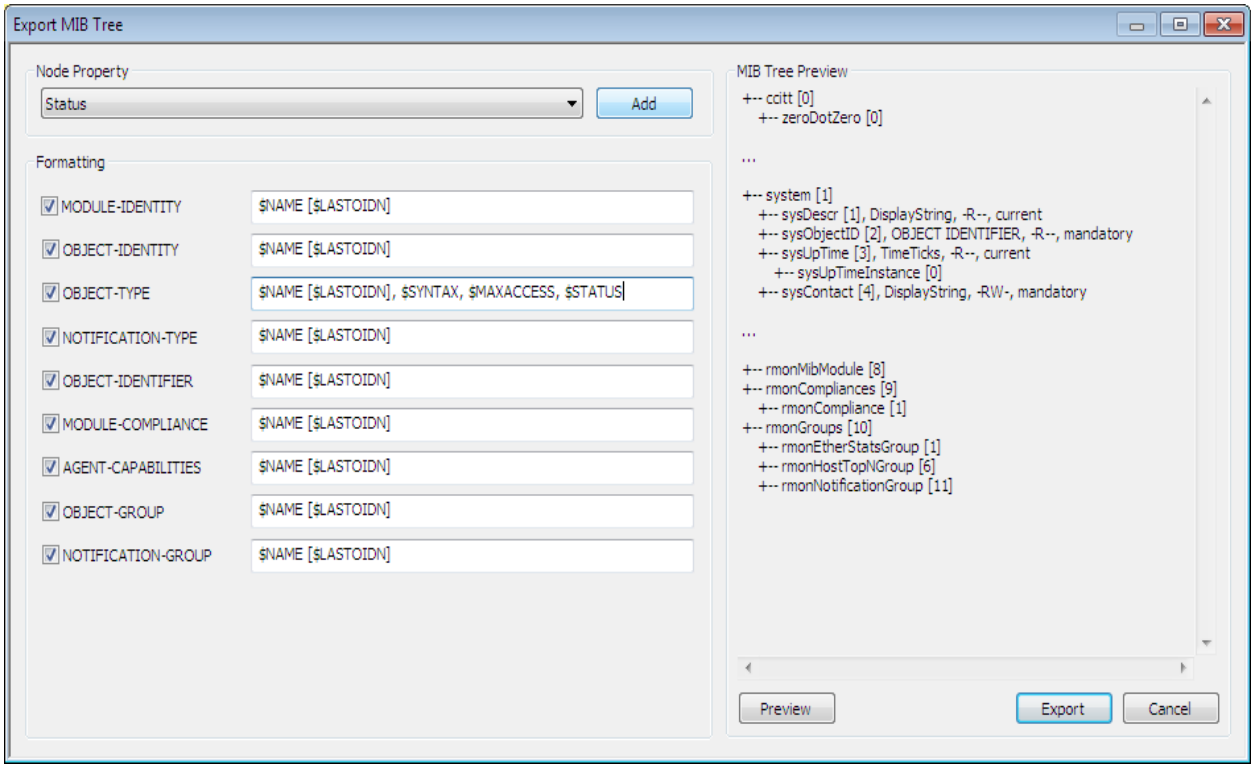


Figure 43: Export MIB Tree dialog box

5 In the ***Node property*** drop-down list, select the property of the node to be included into the report (e.g., `Access`), and click the ***Add*** button next to it to insert the reserved word for the selected property into the input line next to the selected type of object (e.g., reserved word for the `Access` property is `$MAXACCESS`). Repeat the above procedure to include the reserved words for other node properties into the input corresponding input lines. Reserved words in the ***Formatting*** input lines can be combined with arbitrary text and separation characters.

> **Note 1:** Options available in the ***Node property*** drop-down list of the Export MIB Tree dialog depend on the entry selected in the ***Formatting*** frame. Node properties that can contain multiple lines of text (e.g., Description) are not available.
>
> **Note 2:** Settings in the ***Formatting*** frame that have been made for a particular type of node (e.g., `OBJECT-TYPE`) apply only to this type of node.

6 Once you have configured the desired details for all node types to be included in the MIB tree printout, click the Preview button at the bottom of the Export MIB Tree dialog box to see a preview of the generated output.

7 After configuring all the options in the Export MIB Tree dialog box, click the ***Export*** button to generate the MIB tree export file in the desired location.

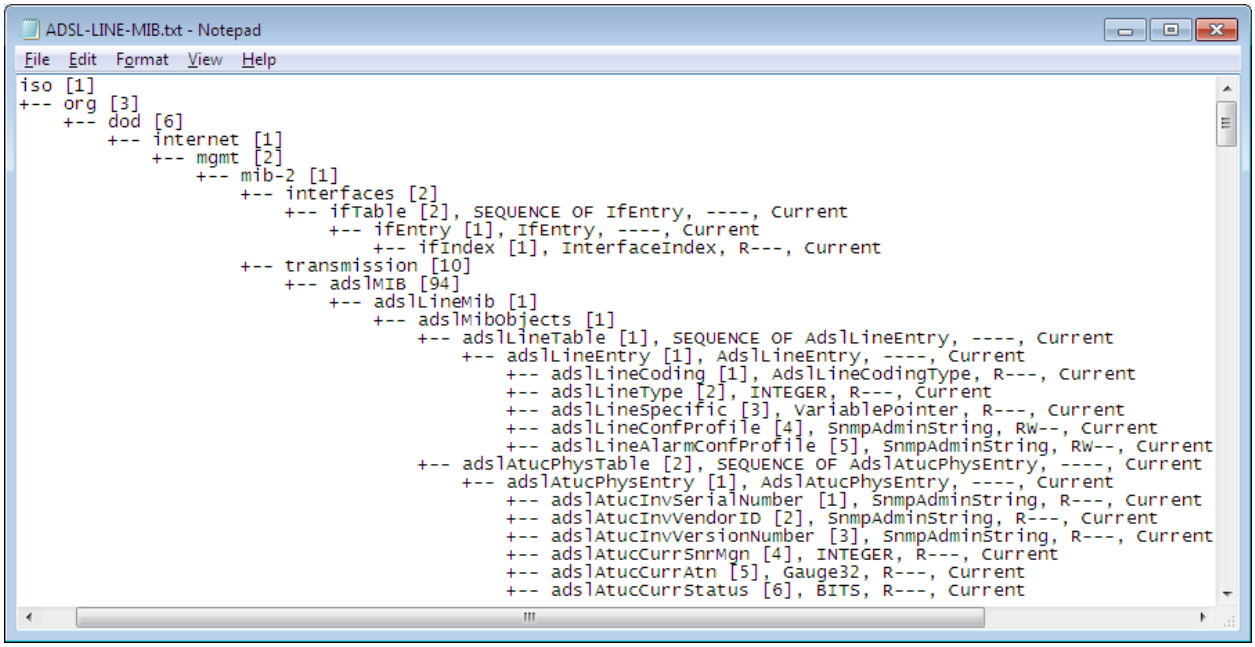


Figure 44: Example of a MIB tree export file content

4.2.12 Exporting MIB Modules from Command Line

In addition to exporting MIB definitions by using the MIB Explorer GUI (graphical user interface), you can export MIB modules also from the command line by using the following syntax:

`MIBExplorer.exe /e:<format> /m:<MIB_name> or /f:<SMIDB_path> /o:<output_path>`

Supported command line switches and parameters:

`/e:<format>`	Export file format. Valid formats are: `pdf`, `html`, `dhtml`, `xml`, `yang`, `mosy` or `txt` (only one format can be specified).
`/m:<MIB_name>`	Name of the registered MIB module to be exported (the name is case sensitive!). This switch cannot be used if the `/f:` switch is used.
`/f:<SMIDB_path>`	Full path to the SMIDB file to be exported. This switch cannot be used if the `/m:` switch is used.
`/o:<output_path>`	Output file(s) save path.

Note: The export commands must be run from the MIB Browser's "Bin" subfolder (by default, this is: C:\Program Files\MG-SOFT\MIB Browser\Bin).

Example:

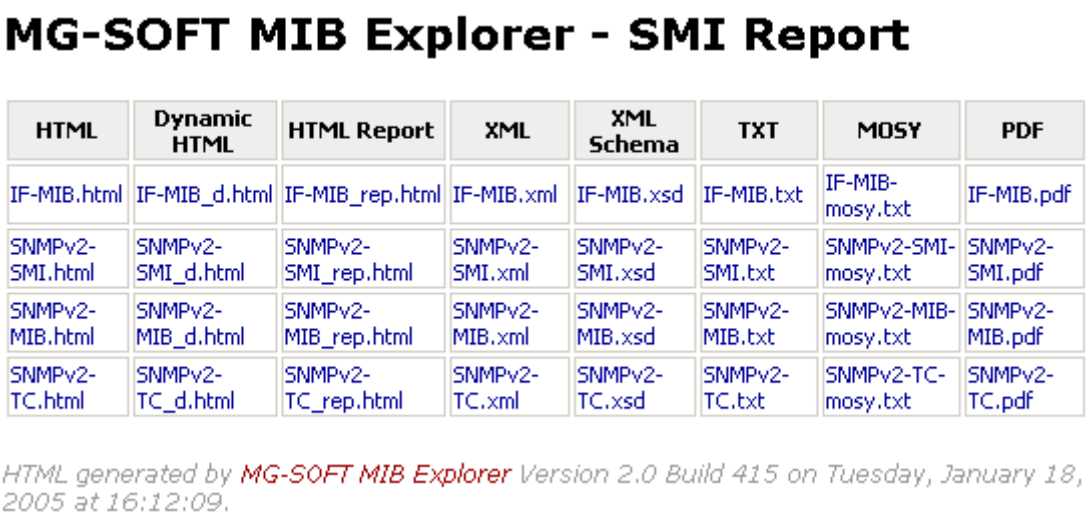
To export the `RFC1213-MIB` MIB module to dynamic HTML format and store the resulting files to the `D:\MIB Explorer\Exports` path, use the following command:

```
MIBExplorer.exe /e:dhtml /m:RFC1213-MIB /o:"D:\MIB Explorer\Exports"
```

4.3 Viewing MIB Report Files

After generating a report file, double-click the file in Windows Explorer to open it in the associated application.

In case the report files have been created using the Report Wizard, an HTML index file (`index.html`) containing a table of all generated report files is also created (by default, this file is automatically opened in your web browser after finishing the Report Wizard). After opening the HTML index file in a web browser, you can open and view each generated file by clicking its name in the table (Figure 45).



MG-SOFT MIB Explorer - SMI Report

HTML	Dynamic HTML	HTML Report	XML	XML Schema	TXT	MOSY	PDF
IF-MIB.html	IF-MIB_d.html	IF-MIB_rep.html	IF-MIB.xml	IF-MIB.xsd	IF-MIB.txt	IF-MIB-mosy.txt	IF-MIB.pdf
SNMPv2-SMI.html	SNMPv2-SMI_d.html	SNMPv2-SMI_rep.html	SNMPv2-SMI.xml	SNMPv2-SMI.xsd	SNMPv2-SMI.txt	SNMPv2-SMI-mosy.txt	SNMPv2-SMI.pdf
SNMPv2-MIB.html	SNMPv2-MIB_d.html	SNMPv2-MIB_rep.html	SNMPv2-MIB.xml	SNMPv2-MIB.xsd	SNMPv2-MIB.txt	SNMPv2-MIB-mosy.txt	SNMPv2-MIB.pdf
SNMPv2-TC.html	SNMPv2-TC_d.html	SNMPv2-TC_rep.html	SNMPv2-TC.xml	SNMPv2-TC.xsd	SNMPv2-TC.txt	SNMPv2-TC-mosy.txt	SNMPv2-TC.pdf

HTML generated by MG-SOFT MIB Explorer Version 2.0 Build 415 on Tuesday, January 18, 2005 at 16:12:09.

Figure 45: Report Examples

5 SETTING MIB EXPLORER PREFERENCES

This section will show you how to modify the default MIB Explorer preference parameters, which determine the general program behavior, and in this way adjust the application to meet your requirements. All parameters described in this section can be configured in the Preferences dialog box.

1. Open the Preferences dialog box with the ***View*** / ***Preferences*** command or use the ***Ctrl + R*** keyboard shortcut.
2. The Preferences dialog box contains the following tabs: **General**, **Exports**, and **Export Paths**. Click the tab that contains the preference information you want to modify.
3. Specify the new settings and afterwards click the ***Apply*** button to save the changes.

5.1 General Tab

To set general MIB Explorer options, open the Preferences dialog box (***View*** / ***Preferences***) and switch to the **General** tab (Figure 46).

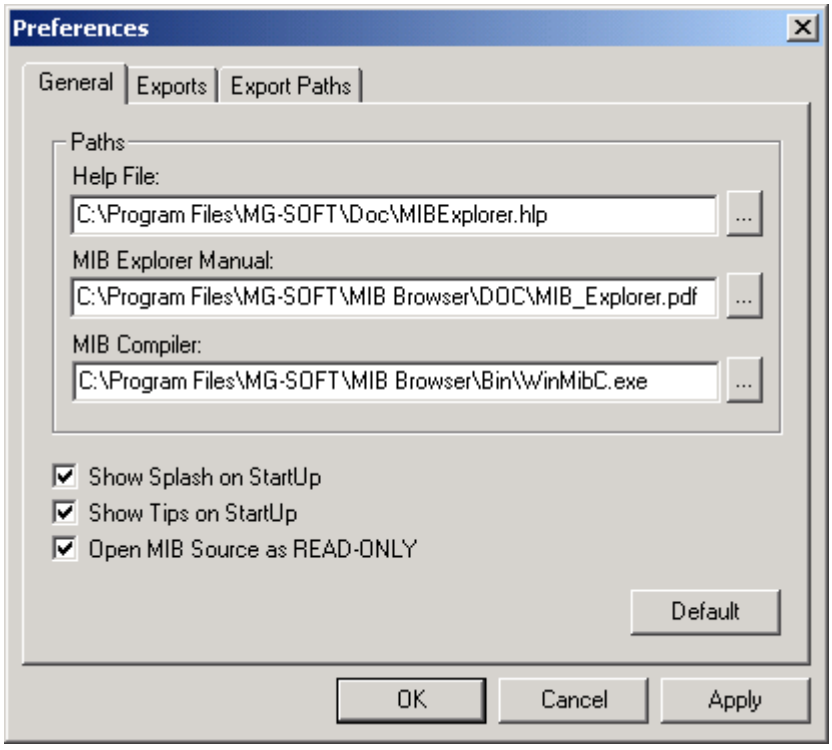


Figure 46: Preferences dialog box, General tab

1 In the ***Paths*** frame specify the file location for the MIB Explorer documentation and MIB Compiler application.

- Into the ***Help File*** input line enter the location of the MIB Explorer help file or use the browse button next to the input line that will assist you in navigating and designating the file path.

- Into the ***MIB Explorer Manual*** input line enter the MIB Explorer User Manual location or use the browse button next to the input line that will assist you in navigating and designating the file path.
- Into the ***MIB Compiler*** input line specify the MIB Compiler program path or use the browse button next to the input line that will assist you in navigating and designating the file path.

2 To display MIB Explorer splash screen at program startup, check the ***Show Splash on StartUp*** checkbox.

3 To display MIB Explorer Tip of the Day dialog box on the program startup, check the ***Show Tips on StartUp*** checkbox.

4 If you want MIB module source files to be opened as read-only, check the ***Open MIB Source as READ-ONLY*** checkbox.

5 To display default values for this view, click the ***Default*** button.

6 Click the ***Apply*** button in order for modifications to take effect.

5.2 Exports Tab

MIB Explorer offers an outstanding export feature that enables exporting report files into different formats. To modify certain settings regarding this feature, open the Preferences dialog box (***View*** ╱ ***Preferences***) and switch to the **Exports** tab (Figure 47).

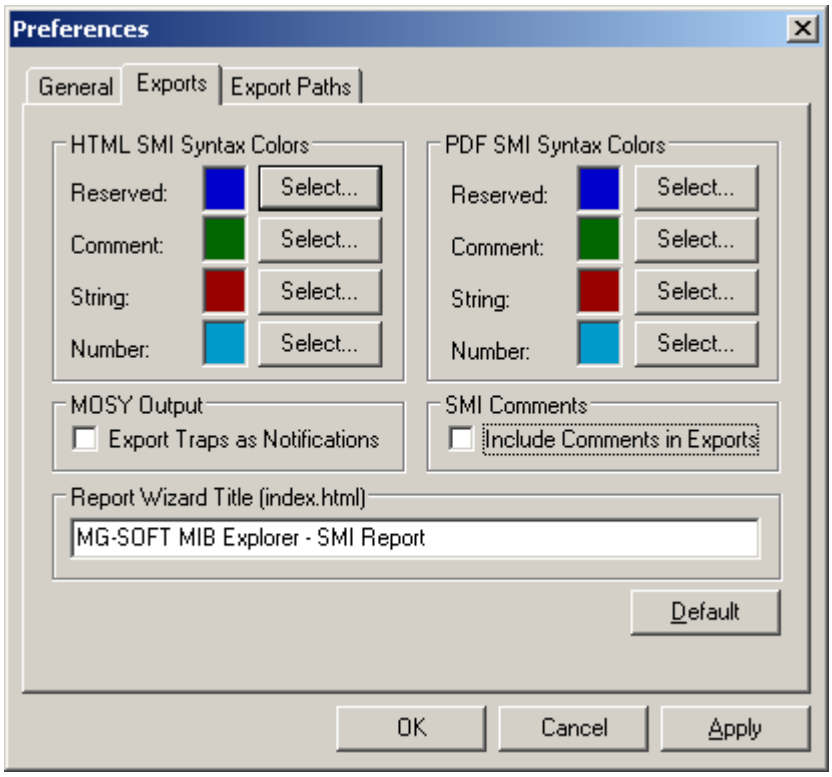


Figure 47: Preferences dialog box, Exports tab

1 In the ***HTML SMI Syntax Colors*** frame, specify SMI syntax color for the HTML export. You can set the color for:

- ***Reserved*** - language reserved words
- ***Comment*** - SMI comments
- ***String*** - SMI strings
- ***Number*** - numbers in SMI definition

2 Use the ***Select*** button next to each input line to assign a new color.

3 In the ***PDF SMI Syntax Colors*** frame, specify SMI syntax color used with the PDF export. Also here you can set the color for:

- ***Reserved*** - language reserved words
- ***Comment*** - SMI comments
- ***String*** - SMI strings
- ***Number*** - numbers in SMI definition

4 Use the ***Select*** button next to each input line to assign a new color.

5 The ***MOSY Output*** frame lets you choose how the traps will be specified in the MOSY format. If you want traps to be defined as notifications, check the ***Export Traps as Notifications*** checkbox.

6 The ***SMI Comments*** frame lets you choose if the comments from MIB definition files will be included into files generated by the Export commands or not. Check the ***Include Comments in Exports*** checkbox to include the SMI comments into export files.

7 The outcome of the MIB Explorer Report Wizard is an html file (Figure 45) that gives you a clear overview over all created report files. In the ***Report Wizard Title (index.html)*** frame, you can change a title for this file by entering it into the associated input line. The default is set to: `MG-SOFT MIB Explorer - SMI Report`.

8 To display default values for this view, click the ***Default*** button.

9 Click the ***Apply*** button in order for modifications to take effect.

5.3 Export Paths Tab

To set the default paths for different types of MIB Explorer exports, open the Preferences dialog box (***View*** ***/Preferences***) and switch to the **Export Paths** tab (Figure 48).

1 The ***Export Paths*** frame displays the paths to the folders whereto the generated export files will be saved by default. The ***browse*** button (**...**) next to each input line can help you navigate to and select the desired folder. You can designate the destination paths for the below enumerated exports:

- HTML
- Dynamic HTML
- HTML Report
- XML
- PDF

- TXT
- MOSY
- YANG
- Report Wizard
- Custom Report

Note: By default, destination paths for all exports are set to: `C:\ProgramData\MG-SOFT\MIB Browser\Exports`.

2 To display default values for this view, click the ***Default*** button.

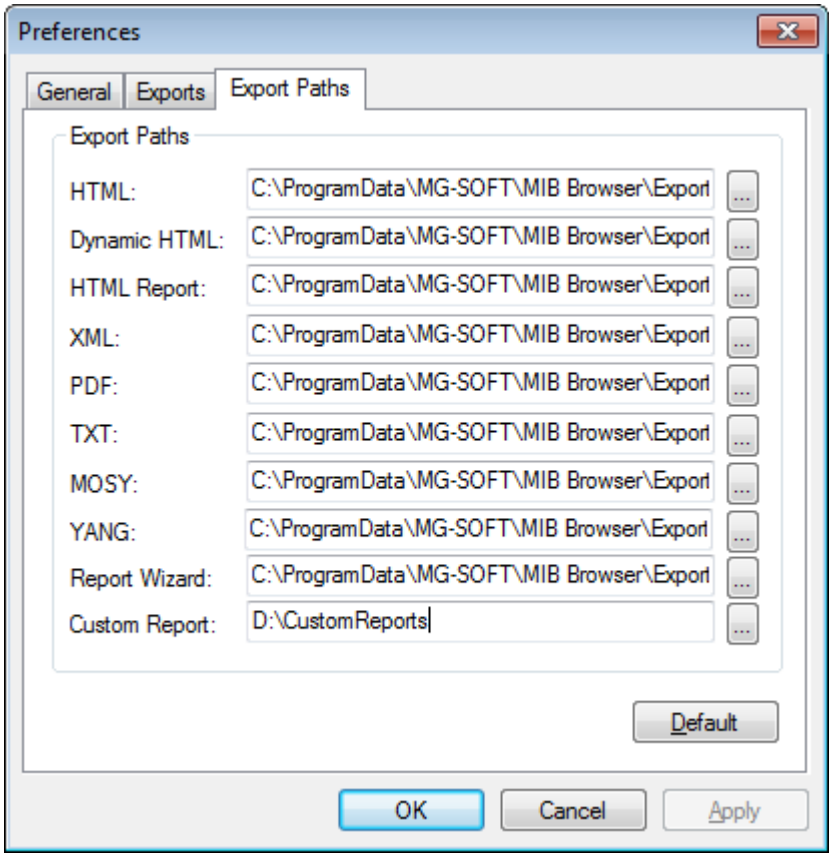


Figure 48: Preferences dialog box, Export Paths tab

3 Click the ***Apply*** button to apply the modifications or the ***OK*** button to apply the modifications and close the Preferences dialog box.

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