Altova Solvency II XBRL add-in for Excel, ver. 2022 Enterprise Edition

User & Reference Manual
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Enterprise Edition
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1 Introduction

Altova Solvency II XBRL add-in for Excel is targeted at businesses and organizations that submit Solvency II data in XBRL format as part of the Solvency II regulatory framework for insurance companies.

Altova Solvency II XBRL add-in for Excel enables stakeholders in the Solvency II process to do the following:

- Enter Solvency II data in Microsoft Excel using a predefined template spreadsheet which maps to the Solvency II XBRL taxonomy.
- Validate report data directly from Excel to ensure it conforms to the Solvency II XBRL taxonomy.
- Export Solvency II reports from Excel to XBRL format.
- Import data from existing Solvency II XBRL reports into Excel.
- Batch convert XBRL files to Excel (.xlsx) format.

The list of supported XBRL taxonomies is regularly updated to include newer versions, independently of Altova add-in releases. To view or install the latest XBRL taxonomy versions, use the XBRL Taxonomy Manager tool included in the add-in. Country-specific XBRL taxonomies and older Solvency II taxonomy versions are not installed by default when you install the add-in. You can view, install, upgrade, or uninstall such taxonomies on demand from the XBRL Taxonomy Manager.

The add-in supports the following Solvency II taxonomies:

- EIOPA - Supervisory Solvency II reporting (version 2.0.1 up to the most recent version)
- EIOPA - Supervisory reporting for Pension Funds (version 2.30 up to the most recent version)

In addition, the following country-specific taxonomies are supported:
• Bank of England (BOE) Insurance Taxonomy
• Central Bank of Ireland (CBI) SolvencyII NST
• De Nederlandsche Bank Financieel Toetsingskader (DNB FTK)
• National Bank of Belgium (NBB) IRI

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1.1 System Requirements

To install and run the add-in, note the following system requirements:

- Windows 7 SP1 with Platform Update, Windows 8, Windows 10, Windows 11, Windows Server 2008 R2 SP1 with Platform Update or newer
- Microsoft Excel in Microsoft 365 (desktop version), Microsoft Excel 2019, 2016, 2013, 2010
- If you use Excel 2010, Visual Studio 2010 Tools for Office Runtime must be installed.
- .NET Framework 4.0 or later

Important:

- The add-in is available for both Microsoft Excel 32-bit and 64-bit. Because of memory requirements, some entry points cannot be loaded in the 32-bit version of the add-in, in which case they are disabled. To load such entry points, use Excel 64-bit and install the 64-bit version of the add-in.

- The add-in requires full access to the Excel document in order to create, validate, and export XBRL reports. If your organization enforces Information Rights Management (IRM) using the Azure Information Protection or a similar technology, the latter may restrict access to the Excel document and thus prevent the add-in from working. For information about how to allow code to run behind documents with restricted permissions, see the Microsoft documentation.
1.2 Installation and Licensing

To install the Altova Solvency II XBRL add-in for Excel, download the executable from the Altova Download Center and run it. Follow the wizard steps to complete the installation. You will need to accept the license agreement and privacy policy in order to proceed with the installation. Make sure to download the executable corresponding to your operating system and Excel platform (32-bit or 64-bit). The 32-bit executable can be installed on both 32-bit and 64-bit Windows. However, it only supports Excel 32-bit. Note that if you have Excel 32-bit and install the 64-bit version of the add-in, you will still be running the 32-bit version.

After the installation, a new tab called Solvency II becomes available in the Excel ribbon. To view the current version of the add-in, click the Solvency II tab in the Excel ribbon. Then click About Solvency II Add-In.

Licensing

To use Altova Solvency II XBRL add-in for Excel, you need a valid license key code. To purchase a new key code or request a free evaluation from the Altova website, take the following steps:

1. In the Excel ribbon, click the Solvency II tab.
2. Click Add-In Activation. A dialog box appears with instructions on getting a new license from Altova or managing an existing license.

After you purchase a license from Altova, follow the same steps as above to open the activation dialog box and upload the license file. Alternatively, you can upload purchased licenses to Altova LicenseServer running on your organization's network. Altova LicenseServer is a free product that helps organizations manage all Altova licenses in a centralized place. See also License Information.
1.3 Installation of XBRL Taxonomies

When you install the add-in for the first time on your computer, only the most recent version of the Solvency II XBRL taxonomies is installed by default.

If you need support for other XBRL Taxonomy versions or country-specific XBRL taxonomies, you will need to install them separately. Specifically, you can install, upgrade, or uninstall XBRL taxonomies on demand, using the XBRL Taxonomy Manager tool included in the add-in.

To run the XBRL Taxonomy Manager, do one of the following:

- In the Solvency II ribbon, click Manage Taxonomies.
- Double-click the file with the .altova_taxonomies extension downloaded from the Altova website. To open the XBRL Taxonomy Download Center in your browser, select the Solvency II ribbon. Then click Altova on the Web | Taxonomy Download.
- From the Windows Control Panel, right-click the Altova Taxonomy Manager entry and select Change or Uninstall from the context menu.

After you complete the installation of Altova Solvency II XBRL add-in for Excel, the check box Invoke Altova Taxonomy Manager is available on the last page of the installation wizard.

Note the following:

- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect for all user accounts on the same computer.
- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect in all Altova XBRL-enabled applications installed on the same computer.
- If the current taxonomy has dependencies on other taxonomies, the dependent taxonomies are also installed (or uninstalled, as applicable).

For more information, see Manage XBRL Taxonomies.
2 Create a New Report

This section will help you get started with an XBRL report. You will learn to:

- Create a New Report
- Enter Data
- Enter Data into 3D Tables
- Control Accuracy of Cells
2.1 New Report

The instructions below show you how to prepare a new XBRL report based on the Solvency II XBRL taxonomy available in Altova Solvency II XBRL add-in for Excel. This XBRL taxonomy is installed by default on your computer when you install the add-in. Additional taxonomies can be installed separately. For details, see Installation of XBRL Taxonomies.

New report
To create a new report, take the following steps:

1. Click the Solvency II tab in the Excel ribbon.
2. Click Insert New Report.
3. Select the taxonomy entry point corresponding to the report you want to create (see screenshot below). Use the filter at the top of the dialog box to filter entry points by keywords. By default, only the most current entry points for the current version of the add-in are shown. To show all the XBRL taxonomies available for download, select the check box Show entry points available for download. To show all versions, clear this check box. Entry points shown in red are not installed. To install the respective XBRL taxonomies, select the entry point and click OK. This opens the XBRL Taxonomy Manager, where you can complete the installation. For more information, see Manage XBRL Taxonomies. Because of memory requirements, some entry points cannot be loaded in the 32-bit version of the add-in, in which case they appear as grayed out in the dialog box above. To make the loading of such entry points possible, use Excel 64-bit and install the 64-bit version of the add-in.
4. Wait while the report tables are loaded into Excel. During this operation, a dialog box informs you about the progress. Once the report tables have finished loading, notice the **Tables** section in the **Solvency II Report Pane**.
5. Select the check boxes next to the tables you want to include in the report. Each included table appears on a new sheet in the Excel book. Please note that tables checked for inclusion will generate a true filing indicator, and tables that are left unchecked will generate a false filing indicator. The filing indicators are set by checking/unchecking the respective table in the Tables section of the pane. Each table that has been checked will be added to the report and set as filed; all the others will not be added to the report.

You can now start entering data in tables, validate it, and export it to XBRL format. See the following topics for more information:

- Enter Data
- Control Accuracy of Cells
- Validate Data
- Export Data to XBRL

Solvency II Report Pane

The Solvency II Report Pane is the area where you can include or exclude tables from the report, view information about each cell, and view or set various report properties. By default, this pane is visible. You can show or hide it by clicking the Toggle Solvency II Report Pane command in the ribbon. As illustrated above, the Solvency II Report Pane has two main sections: Properties and Tables, which are described in the subtopics below.
Properties
The properties displayed in the Solvency II Report Pane directly affect the content of the XBRL instance file that will be created when you export the XBRL instance. To view what each property does, click it and observe the description displayed in the gray box under the grid. Grayed out properties are read-only. Otherwise, you can edit a property by typing text or selecting a value, as applicable.

The Scheme and Identifier properties under Reporting Entity are usually provided by the relevant competent authorities.

Also note that, even though some property values begin with http (for example, XSD Entry Point URI), they do not necessarily point to live web resources and thus should not be considered dead links. To resolve entry point URIs, the add-in uses a catalog mechanism that maps URIs to files on the local system. This is largely due to the size of the taxonomies and the fact that they contain thousands of files. Accessing the taxonomy files on the Internet would result in extremely slow performance, even if their issuing organizations served them that way.

Properties are grouped into the following three tabs:

- The Report tab displays properties applicable to the entire report: One report corresponds to one Excel workbook.
- The Table tab only displays properties of the currently selected table. A table normally corresponds to a single Excel worksheet. Therefore, whenever you click inside a new Excel sheet, the properties are re-drawn to reflect the new worksheet.
- The Cell tab displays only properties of the currently selected cell. Whenever you click a new cell, the cell properties are re-drawn accordingly.

You can set the accuracy-related properties at report, table, or cell level. For more information, see Control Accuracy of Cells.

Tables
To include a table in the report, select its corresponding check box in the pane. Each included table appears on a new sheet in the Excel book. To go to a specific sheet, navigate to it using the standard Excel way or click the corresponding table in the Solvency II Report Pane. To remove a particular table from the report, clear the check box next to it. Tables that are not selected will not be included in the report.

Some tables support a z-axis (a third dimension). For information about adding a z-axis to a table, see Enter Data into 3D Tables.

Each report table displayed in the Solvency II Report Pane is XBRL-bound, which means that data you enter directly in the table cells will be reflected in the XBRL instance file when the report is ready. For more information, see Export Data to XBRL. While the report data is work in progress, you can save the Excel workbook and reopen it later.

Any sheets that contain tables are bound to the XBRL taxonomy. Therefore, these tables must not be deleted. It is not recommended to rename such sheets. If necessary, you can add new sheets to the workbook. However, such sheets will not be bound to the XBRL taxonomy. As a result, these sheets will be ignored when you generate the XBRL instance file.
2.2 Enter Data

You can fill a report with data by entering data into cells manually or by pasting values. With some cells, you can select a value from a predefined list, such as countries or currencies. In some report tables, you may need to add new rows or columns. Below you will find information about how to enter data.

Editable vs. non-editable cells

As a general rule, gray cells must not be edited. Only cells that are included in the XBRL-bound area (delimited by the table boundaries) are to be edited. For guidance, with respect to the purpose of the cell and data to be entered, consult the cell information (properties) displayed in the Solvency II Report Pane in the Cell tab.

Pasting data

If you paste data from multiple columns, the number of pasted columns should correspond to the number of columns in the predefined sheet. If you accidentally paste a larger number of columns or type text outside the default table, unwanted columns may appear outside the XBRL-bound area. To delete the unwanted columns, right-click the cell and select Delete | Table Columns. To prevent Excel from adding new columns and rows automatically, go to File | Options | Proofing | AutoCorrect Options | AutoFormat As You Type | Apply as you work and click to clear the Include new rows and columns in table check box.

When you paste data, it is recommended to keep only the values but not the formatting, namely select the Paste Values option when pasting cells or rows.

Actual vs. displayed cell value

While generating the XBRL instance file, the add-in ignores any cell formatting information and exports the actual value of the Excel cell. However, bear in mind that the actual value may be different from the value displayed in the cell because of the cell formatting information. You can see the actual value that will be written to the XBRL instance in the formula bar of Excel (see example below).

In the example above, the value that will be written to the XBRL instance is 12345. Note that the number accuracy reported in the XBRL instance file also depends on the value you selected for the Accuracy properties. For more information about the accuracy of cells, see Control Accuracy of Cells.

Enumeration values

Some cells expect a fixed predetermined value (e.g., cells that represent currencies or countries). In this case, the add-in displays a small tooltip when you click the cell. You can choose the required value from the drop-
Conditional cells

In some tables, you must first fill out a cell value in order to make other cells of the table editable. For example, cells A5 and B5 must be filled out before all the other cells in the same row can be edited (see screenshot below).

Conditional cells can unlock cells not only from the same row but also from the same column. For example, in the table below, cell C7 must first be filled out so that cells C9-C11 can be edited:
Cells with multiple values

Depending on the XBRL taxonomy, some reports might have facts that represent a list of comma-separated multiple values. As a result, the corresponding cell also requires multiple values to be entered in the same cell. For example, Table S.25.0.1.21.0.3, available through the entry point 21 - Annual Solvency II public disclosure Solo, contains cells that take multiple values. To enter data for such cells, expand the drop-down list and click all the relevant items. Alternatively, you can type all the numeric values, separated by a comma (see screenshot below). Remember that you can view all possible values of a cell in the Cell tab of the Solvency II ReportPane.

After you exit the cell with multiple values, it is automatically re-drawn to display all selected values in a
readable form (even though you may have entered only numbers).

New rows
With some tables, you may need to create new rows. For example, this is the case for Table S 01.03.01.01 available through the entry point Solvency II 2.3 - Annual Solvency II Reporting Solo. You can add new rows using the standard Excel commands or shortcuts. Alternatively, you can click the Add Row button in the ribbon. For example, to add a new row to Table C 10.02 of the entry point mentioned above, do one of the following:

- Click the Solvency II tab in the Excel ribbon. Then click Add Row | Insert Row Below. Note that the commands to insert or delete rows are enabled only if the table supports adding new rows.
- Click the rightmost cell of the last row in the table and press Tab.
- Right-click a cell in the empty row and select Insert | Table Row Below from the context menu.

Note: Any newly added rows must be within the XBRL-bound area of the table, clearly delimited by black lines.

New columns
For some tables, you may need to add extra columns, which means these tables can grow horizontally. For example, this is the case for Table S.04.01.01.03 available through the entry point Solvency II 2.3 - Annual Solvency II Reporting Solo. You can add new columns to such tables in one of the following ways:

- In the Excel ribbon, click the Solvency II tab. Then click Add Column. Note that this command is enabled only if the table supports adding new columns according to the XBRL taxonomy.
- Click the Add button that appears next to the rightmost column of a table.
- Right-click a table cell and select Insert | Table Columns to the Right from the context menu.
2.3 Enter Data into 3D Tables

Most of the report tables have only two dimensions: the x-axis (columns) and the y-axis (rows). However, there are some tables where you may need to enter data into a third dimension (the z-axis): e.g., Table S.16.01.01.01 available through the entry point Solvency II 2.3 - Annual Solvency II Reporting Solo (see screenshot below).

In cases such as the one above, you can add a new sheet along the z-axis (third dimension) of the table as follows:

1. Click the Solvency II tab in the Excel ribbon.
2. Click the Add Sheet (z-Axis) button. Note that the commands to insert or delete new z-axis sheets are enabled only if the table supports adding the z-axis.
3. Alternatively, right-click the table in the Solvency II Report Pane. Then select Add New Sheet (z-Axis) from the context menu (see screenshot below). This creates a new sheet that displays the third dimension of the table (z-axis). The sheet representing the z-axis always has an indicative name that resembles the original table.

Data from the third dimension (z-axis) of a table is displayed as new sheets in Excel. Therefore, three-dimensional tables span across more than one sheet. This is an exception to the rule that one Excel sheet corresponds to one table in the XBRL report. In the XBRL instance, data that belongs to the z-axis will be, however, correctly reported as part of the same table.

When you click a cell that represents the z-axis, all the possible values for the drop-down list are displayed in the Cell tab of the Solvency II Report Pane (see screenshot below).
Delete z-Axis sheets
You can delete sheets that contain data from the third dimension (z-axis) as follows:

1. Select the required sheet or click the corresponding entry in the Tables section of the Solvency II Report Pane.
2. Click Remove Sheet (z-Axis) in the Solvency II tab. Alternatively, right-click the table in the Solvency II Report Pane and select Remove Sheet (z-Axis) from the context menu (see screenshot below).
2.4  Control Accuracy of Cells

You can control the accuracy of monetary and other numeric values in the XBRL report by setting the following properties:

1. Accuracy of monetary cells;
2. Accuracy of numeric cells;
3. Accuracy of percentage cells.

These properties are available in the Solvency II Report Pane in the Properties section.

Accuracy of monetary cells
The property Accuracy of Monetary Cells applies to numeric cells that represent a monetary value. By default, the property Accuracy of Monetary Cells is set to Cents (2), which sets the value of the decimals attribute in the XBRL instance to 2.

Accuracy of numeric cells
The property Accuracy of Numeric Cells applies to numeric values that have no unit except for percentage values, which have their own data type. By default, the property Accuracy of Numeric Cells is set to Exact (INF), which sets the value of the decimals attribute in the XBRL instance to INF.

Accuracy of percentage cells
The property Accuracy of Percentage Cells applies to values that represent a percentage. By default, the property Accuracy of Percentage Cells is set to Basis Points (4), which sets the value of the decimals attribute in the XBRL instance to 4.

To see the type of a cell, select a cell and click the Cell tab in the Solvency II Report Pane and see the Type property.

The accuracy you select from the Solvency II Report Pane controls the accuracy that will be written for this fact in the XBRL instance file. More specifically, the Accuracy properties are bound to the decimals attribute in the XBRL instance file. In the image below, the accuracy value indicated in the brackets corresponds to the value of the decimals attribute in the XBRL instance file.
You can set the accuracy-related properties at report, table, or cell level (see screenshot above). If you set accuracy at multiple levels, keep in mind that the more specific property always overrides the more generic one. For example, the accuracy set at cell level takes priority over the one set at table level. Likewise, the accuracy set at table level takes priority over the one set at report level.

For monetary and numeric cells, the accuracy value can be either positive or negative. A positive value $N$ specifies the accuracy of up to $N$ digits to the right of the decimal separator. For example, the value 2 specifies the accuracy of monetary cells to be in cents. A negative value $N$ specifies the accuracy of up to $N$ digits to the left of the decimal separator. For example, the value -3 specifies the accuracy to be up to thousands, while the value -6 specifies the accuracy to be up to millions.
3  Common Tasks

This section describes the most common tasks associated with XBRL reporting in the Solvency II add-in. In this section, you will learn to:

- Validate Data
- Export Data to XBRL
- Import Data from XBRL
- Batch convert XBRL to Excel
3.1 Validate Data

Validation ensures that the XBRL data you are filing conforms to the XBRL specification. The report data should be validated before you export it to XBRL. You might also want to validate data progressively after each action that could potentially render it invalid (for example, after pasting new rows into the spreadsheet).

To validate data, click the Validate button in the Solvency II tab of the Excel ribbon. To validate XBRL data, the add-in creates a temporary in-memory XBRL instance. When the validation of the in-memory instance completes, a validation report similar to the one below is displayed.

![Validation Report]

**Validation results**

The validation result can contain any of the following validation messages:

<table>
<thead>
<tr>
<th>Message type</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Green Checkmark]</td>
<td>The instance data is valid.</td>
</tr>
<tr>
<td>![Exclamation Mark]</td>
<td>The instance data is valid but has inconsistencies or warnings.</td>
</tr>
<tr>
<td>![Red X]</td>
<td>The instance data is not valid.</td>
</tr>
</tbody>
</table>

**Information messages, warnings, and errors**

The Validation Report dialog box may additionally display any of the following message types: information messages, warnings, and errors.

<table>
<thead>
<tr>
<th>Message type</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Information Symbol]</td>
<td>Denotes an information message. Information messages do not make the XBRL instance invalid.</td>
</tr>
<tr>
<td>![Warning Symbol]</td>
<td>Denotes a warning message or an inconsistency. Warnings and inconsistencies do not make the XBRL instance invalid.</td>
</tr>
<tr>
<td>![Error Symbol]</td>
<td>Indicates an error. If there are validation errors, the XBRL instance is not valid. In this case, you will need to edit the report data to correct each error before proceeding with the export to XBRL. During validation, the add-in checks XBRL formula assertions and reports them as errors. If you are using the Altova RaptorXML+XBRL Server for validation, XBRL formula...</td>
</tr>
</tbody>
</table>
### Common Tasks

#### Message type | Meaning
---|---
| assertions may be optionally configured not to be reported as errors.

**Note:** By default, the add-in treats invalid cell values as errors. If necessary, you can configure the add-in to treat invalid cell values as warnings instead. For more information, see [Settings](#).

When the validation fails, the Validation Report window may display links to the cell where the error has occurred. To quickly find a cell with the error, click the underlined text, and the cursor will be positioned automatically on the required cell. Note that there are cases where multiple cells are involved in a single validation check. In such cases, clicking on the error link will select just one of the affected cells.

To copy the contents of the validation report to the clipboard, click ![Copy](Copy) and paste it into a target file (e.g., an email). Alternatively, right-click inside the Validation Report window and select Copy All Messages from the context menu.

To save the validation report as text or HTML, click ![Save](Save). Alternatively, right-click inside the Validation Report window and select Save Validation Report from the context menu.

To clear the validation report, click ![Clear](Clear). Alternatively, right-click inside the Validation Report window and select Clear from the context menu.
3.2 Export Data to XBRL

Once your report is ready and valid, you can generate an XBRL instance file. To do this, click the Solvency II tab. Then click Export to XBRL. By default, instance files are saved as files with an .xbrl extension. If you need the exported file to have another extension (for example, .xml), type the file extension in the Export dialog box. You can export your file in the formats shown in the screenshot below:

<table>
<thead>
<tr>
<th>Save as type</th>
</tr>
</thead>
<tbody>
<tr>
<td>XBRL-XML report (<em>.xbrl;</em>.xml)</td>
</tr>
<tr>
<td>zipped XBRL-XML report (*.zip)</td>
</tr>
<tr>
<td>XBRL-CSV report (*.json)</td>
</tr>
<tr>
<td>XBRL-CSV reporting package (*.zip)</td>
</tr>
</tbody>
</table>

While the XBRL instance is being created, a dialog box, which informs you about the progress, may be displayed for a short time. During the export operation, data is automatically validated. Any errors, inconsistencies and warnings are reported on the screen after the export finishes. For more information, see Validate Data.

**Note:** Cell values that are not valid, that is, cells that do not conform to the data type of the underlying XBRL concept, prevent the report from being exported.

For tips on how to avoid data formatting errors, see Enter Data. Note, however, that not all XBRL validation errors might be related to incorrect formatting. Some errors might occur because entered data does not meet the XBRL validation rules applicable to the report you are filing.
3.3 Import Data from XBRL

You can import data from existing instances of XBRL reports into Excel (typically, files with an `.xbrl` extension). For the import to be successful, the imported instances must be valid XBRL reports. They may be reports you have previously generated using the Altova Solvency II XBRL add-in for Excel or reports that you received from other parties.

To import an existing XBRL instance file into Excel, follow the instructions below:

1. In the Excel ribbon, click the Solvency II tab.
2. Click Import from XBRL and browse for the XBRL instance file.

**Note:** If a report is already open in Excel, the Import from XBRL button is disabled. To enable the command, save and close the current report (workbook) and create a new workbook.

The formats that can be imported are illustrated in the screenshot below:

During the import operation, a dialog box informs you about the progress:

While the report data is loaded into Excel, it is automatically validated. The dialog box notifies you about potential warnings, inconsistencies, or errors. For more information, see Validate Data.

**Note:** During the import, the add-in validates XBRL formula assertions. The report will be imported even if it contains unsatisfied assertions.
3.4 Batch Convert XBRL to Excel

The **Batch Conversion** command in the Excel ribbon enables you to convert multiple XBRL instance files to Excel format. The result would be the same as if you imported multiple XBRL instance files and then saved them to Excel format. The main advantage is that the conversion is processed as a batch.

To perform a batch conversion, add all the required files to a batch as follows:

1. In the Excel ribbon, click the **Solvency II** tab.
2. Click the **Batch Conversion** button.
3. Click **Add Files**. Alternatively, right-click the grid and select **Add Files** from the context menu.

![Batch Conversion dialog box](image)

The formats available for batch conversion are shown in the screenshot below:

![Batch Conversion formats](image)

**Additional options in the Batch Conversion dialog box**

The conversion dialog box allows you to perform the following additional tasks:

1. To add files from additional source locations to the same batch, click **Add Files**.
2. Whenever you add new files to the batch, their default target folder is the same as the source folder. If you want to assign a specific target folder to all new files by default, select it from the list called **Default target folder for new files**. To add new entries to the list, click **Browse** and choose a folder. By default, the option **Default target folder for new files** affects new files that you add to the batch. However, if you change this option, and if the files already exist in the batch (in the grid), a dialog box like the one below appears. Click **Yes** if the target folder of existing files should be changed as well.
3. You can choose to save all converted files to the same target folder or set a different target folder for each file. To change the target folder of specific files, first select the files in the grid. Then right-click the grid and select **Set target folder** from the context menu.

4. You can rename the target files. First, select the files in the grid. Then right-click the grid and select **Rename** from the context menu (or press **F2**). You can change both the file name and the file path. However, if you change the path, make sure that it exists.

5. To remove files from the batch, select them, right-click the grid and select **Remove** from the context menu (or press the **Del** key).

Selecting multiple files
To select multiple files from the grid, use the standard Windows key combinations, for example:

- While holding the **Ctrl** key pressed, click to select the files of interest.
- Click an empty area in the dialog box and then drag the cursor over the files to be selected (rectangular selection).
- Press **Ctrl+A** to select all files in the grid.

Once the batch is ready, click **Convert** to process all files in it. If any files with the same name already exist in the target folder, a message box appears asking your confirmation to overwrite them.

Validation report
During the batch conversion, a dialog box informs you about the progress. The outcome of the conversion is reported in the **Validation Report** window (see screenshot below):

The validation report for batch conversion is similar to that for a single imported XBRL instance file. For more information about validation messages, see **Validate Data**.
4 Manage XBRL Taxonomies

XBRL Taxonomy Manager is a tool that provides a centralized way to install and manage XBRL taxonomies for use across all Altova XBRL-enabled applications, including Altova Solvency II XBRL add-in for Excel. On Windows, XBRL Taxonomy Manager has a graphical user interface and is also available at the command line. On Linux and Mac*, the tool is available at the command line only.

* The Linux and macOS operating systems are applicable only if you are running XBRL Taxonomy Manager on those operating systems in conjunction with Altova cross-platform server applications such as MapForce Server, StyleVision Server, or RaptorXML+XBRL Server.

XBRL Taxonomy Manager provides the following features:

- View XBRL taxonomies installed on your computer, and check whether new versions are available for download.
- Download newer versions of XBRL taxonomies independently of the Altova product release cycle. All taxonomies are maintained by Altova on an online-based storage accessible to XBRL Taxonomy Manager, and you can download them as soon as they become available.
- Install or uninstall any of the multiple versions of a given taxonomy (or all versions if necessary).
- A single XBRL taxonomy represents a “package” but it may have dependencies on other taxonomies. Whenever you choose to install or uninstall a particular taxonomy, any dependent taxonomies are detected and also installed or removed automatically. The graphical user interface (or the command line if applicable) informs you when dependencies are being added or removed.
- XBRL taxonomies maintained through XBRL Taxonomy Manager benefit from the XML catalog mechanism that enables URI references in instance or schema documents to be resolved from local files, as opposed to being retrieved from the Internet. This is extremely important in the case of big XBRL taxonomies where schema resolution from remote URIs is not practical or even recommended, mainly for performance reasons.

XBRL Taxonomy Manager provides a way to administer any of the XBRL taxonomies required for use in any one of the Altova XBRL-enabled applications (see list below). These include the European Banking Authority Reporting Framework taxonomies, US-GAAP Financial Reporting taxonomies, and various other country- or domain- specific XBRL taxonomies. To view the full list, either run XBRL Taxonomy Manager or run the list command at the command line.

Altova XBRL-enabled applications

The following Altova applications are XBRL-enabled and thus benefit from the features provided by XBRL Taxonomy Manager:

- Altova XBRL Add-ins for Excel (EBA, Solvency II)
- MapForce Enterprise Edition
- MapForce Server
- MapForce Server Advanced Edition
- RaptorXML+XBRL Server
- StyleVision Server
- StyleVision Enterprise Edition
- XMLSpy Enterprise Edition
Changes in XBRL taxonomies using XBRL Taxonomy Manager take effect for all the applications listed above if they are installed on the same computer.

Installation

XBRL Taxonomy Manager is installed automatically whenever you install any Altova XBRL-enabled application or the Altova Mission Kit Enterprise Edition. Likewise, it is removed automatically when you uninstall the last Altova XBRL-enabled application from your computer or the Altova Mission Kit Enterprise Edition.

How it works

Altova maintains an online taxonomy storage where all XBRL taxonomies used in Altova products are stored. This taxonomy storage is updated on a periodical basis, for example, shortly after new versions of relevant taxonomies are released by their issuing organizations.

Whenever you run XBRL Taxonomy Manager at the graphical user interface, information about the latest available taxonomies is displayed in a dialog box, where you can view, install, upgrade or uninstall them. You can also perform the same actions at the command line interface.
You may also install taxonomies by running .altova_taxonomies files downloaded from the Altova website (https://www.altova.com/taxonomy-manager).

Regardless of the manner in which taxonomies were installed, all information about installed taxonomies is tracked in a centralized location on your computer, also known as the local cache directory. The local cache directory contains information about Altova packages (except for the actual taxonomy files, which are installed on demand). The local cache directory is at the following path:

- **Linux**: /var/opt/Altova/pkgs
- **macOS**: /var/Altova/pkgs
The local cache directory gets updated automatically from time to time, so as to propagate the latest state of the online storage to the local computer. More specifically, the cache is updated as follows:

- When you run the XBRL Taxonomy Manager.
- When you run Altova Solvency II XBRL add-in for Excel for the first time in the same calendar day.
- If Altova Solvency II XBRL add-in for Excel is already running, the cache directory gets updated every 24 hours.
- You can also update the local cache from the online storage on demand, by running the update command at the command line interface.

As you install or uninstall taxonomies, the local cache directory gets automatically updated with information about the available and installed taxonomies, as well as the taxonomy files themselves.

The local cache directory is maintained automatically based on the taxonomies you install or uninstall; it should not be altered or deleted manually. If you ever need to reset XBRL Taxonomy Manager to the original “pristine” state, run the reset command of the command line interface, and then run the initialize command. (Alternatively, run the reset command with the -i option.)
4.1 Run Taxonomy Manager

To run the XBRL Taxonomy Manager, do one of the following:

- In the Solvency II ribbon, click Manage Taxonomies.
- Double-click the file with the .altova_taxonomies extension downloaded from the Altova website. To open the XBRL Taxonomy Download Center in your browser, select the Solvency II ribbon. Then click Altova on the Web | Taxonomy Download.
- From the Windows Control Panel, right-click the Altova Taxonomy Manager entry and select Change or Uninstall from the context menu.

After you complete the installation of Altova Solvency II XBRL add-in for Excel, the check box Invoke Altova Taxonomy Manager is available on the last page of the installation wizard.

Command line interface

To run XBRL Taxonomy Manager from a command line interface:

1. Open a command prompt window and change directory to C:\ProgramData\Altova\SharedBetweenVersions.
2. To display help at the command line, run:

   TaxonomyManager.exe --help
4.2 Install a Taxonomy

To install a taxonomy:

1. Run XBRL Taxonomy Manager.
2. Select the check box next to the taxonomies or taxonomy versions you want to install, and click Apply.

Alternatively, if you have downloaded a file with the .altova_taxonomies extension from the Altova website, double-click the .altova_taxonomies file to run it. XBRL Taxonomy Manager opens when you run the .altova_taxonomies file.

Note the following:

- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect for all user accounts on the same computer.
- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect in all Altova XBRL-enabled applications installed on the same computer.
- If the current taxonomy has dependencies on other taxonomies, the dependent taxonomies are also installed (or uninstalled, as applicable).

Command line interface

To install a taxonomy, run:

```
TaxonomyManager.exe install FILTER...
```

Where FILTER means one of the following:

1. A taxonomy identifier in the format `<name>-<version>`, for example: `eba-2.10`, `us-gaap-2020.0`. To view all the available taxonomy identifiers and versions, run the `list` command.
2. An .altova_taxonomies file downloaded from the Altova website.

Installing taxonomies on demand

Whenever XBRL taxonomies required by the add-in are missing from your computer, you may be prompted to install taxonomies on demand. For example, a dialog box such as the one below may appear when you run an action that requires loading XBRL taxonomies:
When you click **Yes**, the missing taxonomies will be installed and the local cache directory will be updated to keep track of this information. You can always view all of the previously installed taxonomies by clicking the **Manage Taxonomies** button in the **Solvency II** ribbon.

If you select **No**, the missing taxonomies will not be installed, but you will not be able to use the add-in in this case.
4.3 Apply Patches

Occasionally, XBRL taxonomies may receive patches from their issuers. When the XBRL Taxonomy Manager detects that patches are available, the following happens:

- If you use XBRL Taxonomy Manager through the Windows graphical user interface, the respective XBRL taxonomies are shown with the icon.
- If you use the command line or a Linux/macOS system, any XBRL taxonomies that have patches are listed when you run the executable with the `list -u` command.

To apply a patch on Windows:

1. Click the **Patch Selection** button. The icon of each XBRL taxonomy that qualifies changes from to , and the dialog box informs you about the patches that are to be applied, for example:
Note: The **Patch Selection** button is enabled only when there are patches available for any of the currently installed XBRL taxonomies.

2. Click **Apply**.

**To apply a patch at the command line interface:**

1. Run the `list -u` command. This lists any taxonomies where patch upgrades are available.
2. Run the `upgrade` command to install the patches.

For more information, see the reference to the [Command Line Interface](#).
4.4 View Installed Taxonomies

To view all installed taxonomies from a graphical user interface, run XBRL Taxonomy Manager. A selected check box next to a taxonomy (or a taxonomy version) indicates that that taxonomy is installed.

Command line interface
To view all available taxonomies from a command line interface, run:

```
TaxonomyManager.exe list
```

To view only installed taxonomies, run:

```
TaxonomyManager.exe list -i
```

To view only taxonomies where a newer version is available, run:

```
TaxonomyManager.exe list -u
```
4.5 Uninstall a Taxonomy

To uninstall a taxonomy:

1. Run XBRL Taxonomy Manager.
2. Clear the check box next to the taxonomies or taxonomy versions you want to uninstall. If the selected taxonomy is dependent on other taxonomy packages, a dialog box opens, informing you that the dependencies will be removed as well, for example:

   ![Package Dependencies dialog box](image)

   The following packages depend on the selected package and therefore have to be removed too:
   US GAAP 2020 - Financial reporting taxonomy provided by the US Security and Exchange Commission

   ![OK and Cancel buttons](image)

3. Click Apply to remove the taxonomy and its dependencies.

Note the following:

- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect for all user accounts on the same computer.
- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect in all Altova XBRL-enabled applications installed on the same computer.
- If the current taxonomy has dependencies on other taxonomies, the dependent taxonomies are also installed (or uninstalled, as applicable).

Command line interface

To uninstall a taxonomy, run:

```
TaxonomyManager.exe uninstall FILTER...
```

Where `FILTER` means one of the following:

1. A taxonomy identifier in the format `<name>-<version>`, for example: `eba-2.10, us-gaap-2020.0`. To view all the available taxonomy identifiers and versions, run the `list` command.
2. An `.altova_taxonomies` file downloaded from the Altova website.
4.6 Command Line Interface

To call XBRL Taxonomy Manager at the command line, you need to know the path of the executable. By default, the XBRL Taxonomy Manager executable is installed at the following path:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux*</td>
<td>/opt/Altova/&lt;%APPNAME-UL%&gt;2022/bin/taxonomymanager</td>
</tr>
<tr>
<td>macOS*</td>
<td>/usr/local/Altova/&lt;%APPNAME-UL%&gt;2022/bin/taxonomymanager</td>
</tr>
<tr>
<td>Windows</td>
<td>C:\ProgramData\Altova\SharedBetweenVersions\TaxonomyManager.exe</td>
</tr>
</tbody>
</table>

* The Linux and macOS paths are applicable only if you are running XBRL Taxonomy Manager on those operating systems in conjunction with Altova cross-platform server applications such as MapForce Server, StyleVision Server, or RaptorXML+XBRL Server.

By convention, this documentation omits the full path of the executable when describing a given command, and uses `<exec>` instead of the executable name, for example:

```
<exec> help
```

Where `<exec>` is the path or name of the executable.

Calling XBRL Taxonomy Manager from the installation directory

To call the executable without having to type the full path, change the current directory to the one below:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td>cd /opt/Altova/&lt;%APPNAME-UL%&gt;2022/bin</td>
</tr>
<tr>
<td>macOS</td>
<td>cd /usr/local/Altova/&lt;%APPNAME-UL%&gt;2022/bin</td>
</tr>
<tr>
<td>Windows</td>
<td>cd &quot;C:\ProgramData\Altova\SharedBetweenVersions&quot;</td>
</tr>
</tbody>
</table>

You can now run a command by calling the executable with a relative path, for example:

```
Linux
sudo ./taxonomymanager help
```

```
macOS
sudo ./taxonomymanager help
```

```
Windows
TaxonomyManager.exe help
```

**Note:** On Linux and macOS systems, the prefix `./` indicates that the executable is in the current directory. The prefix `sudo` indicates that the command must be run with root privileges.

Calling XBRL Taxonomy Manager from any directory

To call the executable from any directory, refer to it using the absolute path. Alternatively, if you want to call the program by typing just the executable name, you can edit the PATH environment variable of your operating system.
system so that it includes the full path to the executable's directory. For ways to change the PATH environment variable, refer to the documentation of your operating system.

Notes:

- After changing the PATH environment variable, you may need to close the terminal window and open a new one, in order for the changes to take effect.
- On Linux and macOS, using `sudo` does not take into account the user's PATH.

Command line syntax

The general syntax for using the command line is as follows:

```
<exec> -h | --help | --version | <command> [options] [arguments]
```

In the listing above, the vertical bar `|` separates a set of mutually exclusive items. The square brackets `[]` indicate optional items. Essentially, you can type the executable path followed by either `--h`, `--help`, or `--version` options, or by a command. Each command may have options and arguments. The list of commands is described in the following sections.

### 4.6.1 help

This command provides contextual help about commands pertaining to XBRL Taxonomy Manager executable.

**Syntax**

```
<exec> help [command]
```

Where `[command]` is an optional argument which specifies any valid command name.

**Remarks**

You can also invoke help by typing a command followed by `-h` or `--help`, for example:

```
<exec> list -h
```

You can also invoke general help by typing `-h` or `--help` directly after the executable, for example:

```
<exec> --help
```

**Example**

The following command displays help about the `list` command:

```
Linux, macOS  ./taxonomymanager help list
```
initialize

This command initializes XBRL Taxonomy Manager environment. It creates a cache directory where information about all taxonomies is stored. Initialization is performed automatically the first time when you install an Altova application that includes supports for XBRL Taxonomy Manager, so you don't need to run this command under normal circumstances. You typically need to run this command after executing the reset command.

Syntax

<exec> initialize [options]

The alias of this command is init.

Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td>--silent, --s</td>
<td>Display only error messages. The default value is false.</td>
</tr>
<tr>
<td>--verbose, --v</td>
<td>Display more information during execution. The default value is false.</td>
</tr>
</tbody>
</table>

install

This command installs one or more taxonomies. Note the following:

- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect for all user accounts on the same computer.
- Installing or uninstalling a taxonomy from XBRL Taxonomy Manager takes effect in all Altova XBRL-enabled applications installed on the same computer.
- If the current taxonomy has dependencies on other taxonomies, the dependent taxonomies are also installed (or uninstalled, as applicable).

Syntax

<exec> install [options] FILTER...

To specify multiple taxonomies to install, repeat FILTER as many times as necessary.

Arguments

<table>
<thead>
<tr>
<th>FILTER</th>
<th>Where FILTER means one of the following:</th>
</tr>
</thead>
</table>
1. A taxonomy identifier in the format `<name>-<version>`, for example: `eba-2.10, us-gaap-2020.0`. To view all the available taxonomy identifiers and versions, run the `list` command.

2. An `.altova_taxonomies` file downloaded from the Altova website.

You can also use abbreviated identifiers if they are unique, for example, `eba`. If you use an abbreviated identifier, this will install the latest available version of that taxonomy.

**Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>--help, --h</code></td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td><code>--silent, --s</code></td>
<td>Display only error messages. The default value is <code>false</code>.</td>
</tr>
<tr>
<td><code>--verbose, --v</code></td>
<td>Display more information during execution. The default value is <code>false</code>.</td>
</tr>
</tbody>
</table>

**Example**

The following command installs the latest `eba` (European Banking Authority) and `us-gaap` (US Generally Accepted Accounting Principles) taxonomies:

For **Linux, macOS**:

```
./taxonomymanager install eba us-gaap
```

For **Windows**:

```
TaxonomyManager.exe install eba us-gaap
```

**4.6.4 list**

Use this command to list taxonomies at the command line, in one of the following ways:

- list all available taxonomies
- list specific taxonomies
- list only installed taxonomies
- list only taxonomies that require upgrade.

**Syntax**

```
<exec> list [options] [FILTER...]
```

This command can be abbreviated with `ls`.

**Arguments**

| FILTER | List only taxonomies that contain this string in their name. You can specify this argument multiple times. |
Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td>--installed, --i</td>
<td>List only installed taxonomies. The default value is <code>false</code>.</td>
</tr>
<tr>
<td>--upgradeable, --u</td>
<td>List only taxonomies where patch upgrades are available. The default value is <code>false</code>.</td>
</tr>
</tbody>
</table>

Examples

To list all available taxonomies, run:

Linux, macOS: 
./taxonomymanager list

Windows: 
TaxonomyManager.exe list

To list only installed taxonomies, run:

Linux, macOS: 
./taxonomymanager list -i

Windows: 
TaxonomyManager.exe list -i

To list all taxonomies that contain either "eba" or "us-gaap" in their name, run:

Linux, macOS: 
./taxonomymanager list eba us-gaap

Windows: 
TaxonomyManager.exe list eba us-gaap

4.6.5  reset

This command removes all installed taxonomies and the cache directory.

**Warning:** This command deletes all installed taxonomies and their information.

After running this command, make sure to run the `initialize` command, in order to recreate the cache directory. Alternatively, run the `reset` command with the `-i` option.

Note that `reset -i` restores the original installation of the product, so it's recommended to run the `update` command as well, after performing a reset. Alternatively, run the reset command with the `-i` and `-u` options.

Syntax

<exec> reset [options]
Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td>--init, --i</td>
<td>Initialize the XBRL Taxonomy Manager environment after reset. Valid values are true and false. The default value is false.</td>
</tr>
<tr>
<td>--silent, --s</td>
<td>Display only error messages. The default value is false.</td>
</tr>
<tr>
<td>--update, --u</td>
<td>Initialize and update the XBRL Taxonomy Manager environment after reset. Valid values are true and false. The default value is false.</td>
</tr>
<tr>
<td>--verbose, --v</td>
<td>Display additional information during execution. The default value is false.</td>
</tr>
</tbody>
</table>

Examples

To reset the XBRL Taxonomy Manager, run:

<table>
<thead>
<tr>
<th>Platform</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux, macOS</td>
<td>./taxonomymanager reset</td>
</tr>
<tr>
<td>Windows</td>
<td>TaxonomyManager.exe reset</td>
</tr>
</tbody>
</table>

4.6.6 setdeflang

This command sets the language of XBRL Taxonomy Manager.

Syntax

<exec> setdeflang language

Where language is a mandatory argument supplying the language code. The alias of this command is sdl.

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>language</td>
<td>The language to be set. Valid values are English (en), French (fr), German (de), Japanese (ja), and Spanish (es).</td>
</tr>
</tbody>
</table>

Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
</tbody>
</table>

Examples

To set the language to Spanish, run:
4.6.7 uninstall

This command uninstalls one or more taxonomies. By default, any taxonomies referenced by the current one are uninstalled as well. To uninstall just the current taxonomy and keep the referenced taxonomies, set the option `--k`.

**Syntax**

```
<exec> uninstall FILTER...
```

To specify multiple taxonomies, repeat `FILTER` as many times as necessary.

**Arguments**

<table>
<thead>
<tr>
<th>FILTER</th>
<th>Where FILTER means one of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. A taxonomy identifier in the format <code>&lt;name&gt;-&lt;version&gt;</code>, for example: <strong>eba-2.10, us-gaap-2020.0</strong>. To view all the available taxonomy identifiers and versions, run the <strong>list</strong> command.</td>
</tr>
<tr>
<td></td>
<td>2. An <code>.altova_taxonomies</code> file downloaded from the Altova website.</td>
</tr>
</tbody>
</table>

**Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>--help, --h</code></td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td><code>--keep-references, --k</code></td>
<td>If this option is set, then referenced taxonomies are not uninstalled. The default value is <code>false</code>.</td>
</tr>
<tr>
<td><code>--silent, --s</code></td>
<td>Display only error messages. The default value is <code>false</code>.</td>
</tr>
<tr>
<td><code>--verbose, --v</code></td>
<td>Display additional information during execution. The default value is <code>false</code>.</td>
</tr>
</tbody>
</table>

**Example**

The following command uninstalls the **eba-2.10** and **us-gaap-2020.0** taxonomies and their dependencies:

<table>
<thead>
<tr>
<th>Platform</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux, macOS</td>
<td><code>./taxonomymanager uninstall eba-2.10 us-gaap-2020.0</code></td>
</tr>
<tr>
<td>Windows</td>
<td><code>TaxonomyManager.exe uninstall eba-2.10 us-gaap-2020.0</code></td>
</tr>
</tbody>
</table>
4.6.8 update

This command queries the list of taxonomies available from the online storage and updates the local cache directory. The update of this information takes place implicitly and you shouldn't need to run this command unless you have performed a reset and initialize.

Syntax

<exec> update [options]

Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td>--silent, --s</td>
<td>Display only error messages. The default value is false.</td>
</tr>
<tr>
<td>--verbose, --v</td>
<td>Display additional information during execution. The default value is false.</td>
</tr>
</tbody>
</table>

Example

The following command updates the taxonomies information explicitly.

Linux, macOS

./taxonomymanager update

Windows

TaxonomyManager.exe update

4.6.9 upgrade

This command upgrades all eligible taxonomies to the latest available patch version. In other words, it performs only upgrades at patch level of a specific release. Running this command is meaningful only if there are upgradeable taxonomies available. You can identify upgradeable taxonomies by running the list -u command.

Note: The upgrade command would remove a deprecated taxonomy if no newer version is available.

Syntax

<exec> upgrade [options]

Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--help, --h</td>
<td>Display help about this command at the command line.</td>
</tr>
<tr>
<td>--silent, --s</td>
<td>Display only error messages. The default value is false.</td>
</tr>
</tbody>
</table>
--verbose, --v

Display additional information during execution. The default value is false.
5 Menu Commands

This section describes the add-in commands available in the Solvency II tab of the Excel ribbon (see screenshot below). The commands in the Solvency II tab are organized into four groups: Report, Windows, Table Operations and Add-in. The description of each add-in command is provided in the subsections below.

<table>
<thead>
<tr>
<th>File</th>
<th>Home</th>
<th>Insert</th>
<th>Page Layout</th>
<th>Formulas</th>
<th>Data</th>
<th>Review</th>
<th>View</th>
<th>Help</th>
<th>EBAP</th>
<th>Solvency II</th>
<th>WP</th>
<th>Design</th>
<th>Tell me what you want to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert New Report</td>
<td>Import from XBRL</td>
<td>Report</td>
<td>Formulas</td>
<td>Data</td>
<td>Review</td>
<td>View</td>
<td>EBAP</td>
<td>Solvency II</td>
<td>WP</td>
<td>Design</td>
<td>Tell me what you want to do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Validate to XBRL</td>
<td>Batch Conversion</td>
<td>Windows</td>
<td>Table Operations</td>
<td>Manage Taxonomies</td>
<td>Settings</td>
<td>Help</td>
<td>Add-In</td>
<td>About Solvency II</td>
<td>Add-In</td>
<td>Altova on the Web</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Report

Insert New Report
Creates a new Solvency II report. For more information, see Create a New Report. This command is disabled if the report sheet has already been inserted into the workbook.

Import from XBRL
Imports an XBRL instance file into the current Excel spreadsheet. For details, see Import Data from XBRL. This command is disabled if the report has already been inserted into the workbook. To enable the command, save and close the current report (workbook), and create a new workbook.

Export to XBRL
Exports data from all currently active sheets to an XBRL instance file. For details, see Export Data to XBRL.

Validate
Validates report data against the underlying XBRL taxonomy and displays the validation results in the Validation Report dialog box. For more information, see Validate Data.

Batch Conversion
Converts multiple XBRL instance files to Excel. For more information, see Batch Convert XBRL to Excel.

Windows

Toggle Solvency II Report Pane
Toggles the Solvency II Report Pane on or off. By default, this pane is visible.

Toggle Validation Report
Shows or hides the Validation Report window. See Validate Data.

Table Operations

Add Sheet (z-Axis)
Adds a new sheet which allows entering data in a third dimension. This button is enabled only if the table supports a third dimension according to the XBRL taxonomy. For more information, see Enter Data into 3D Tables.

Delete Sheet (z-Axis)
Removes the previously added z-axis sheet.
Add Row
Adds a new row to the currently selected table. This button is enabled only if the table supports growing vertically.

Delete Row
Deletes an existing row. This button is enabled only if the table supports growing vertically.

Add Column
Adds a new column to the currently selected table. This button is enabled only if the table supports growing horizontally.

Delete Column
Removes an existing column. This button is enabled only if the table supports growing horizontally.

Add-In
Manage Taxonomies
This command opens the XBRL Taxonomy Manager tool, which allows viewing, installing, and uninstalling XBRL taxonomies. See Manage XBRL Taxonomies.

Settings
Displays a dialog box where you can view or change the add-in settings.

Help
Opens this help file in CHM (Microsoft Compiled HTML Help) format.

Add-In Activation
Displays the activation status of the add-in or provides options to enter or purchase a license key code.

About Solvency II Add-In
Displays version information about the add-in.

Altova on the Web
Provides links to the Altova website, including Online Support Center, XBRL Taxonomy Download Center, training and tutorials.
6 Settings

The settings allow you to configure creation and language parameters and define validation settings. To view or change the add-in settings, click Settings in the Solvency II tab (see screenshot below).

The settings you can configure are listed below.

Instance Creation

The settings below describe the Instance Creation section of the Settings dialog box.

Add 'generated by' comment
Specifies if the exported XBRL instances should contain a Generated by comment. Set this option to false if your reporting authority does not allow comments in the created reports. The default value is true.

Create streamable XBRL
Specifies if the exported XBRL instances should be streamable and contain the xbrl-streamable-instance processing instruction. Set this option to false if your reporting authority does not allow processing instructions in the created reports. The default value is true.

Treat invalid cell values as
Specifies whether invalid cell values should be treated as validation errors or warnings. The default value is Error.

Treat missing Identifier as
After you create a new report, the Solvency II Report Pane contains a property called Identifier which is empty by default. This option specifies whether an empty Identifier property should trigger a validation error or a warning. The default value is Error.
Misc
The setting below describes the Misc section of the Settings dialog box.

Preferred Label Language
Specifies the preferred language to be used in the headers of created worksheets. Note that the respective label resources must be defined in the taxonomy for this setting to take effect. The default value is en.

Validation
The setting below describes the Validation section of the Settings dialog box.

EIOPA XBRL Filing Rules
Specifies if the additional EIOPA XBRL filing rules (as specified by the document EIOPA XBRL Filing Rules) should be checked. The default value is Enabled.
7 COM API

The add-in provides a COM API that can be used from programming languages that support interacting with Excel and accessing COM objects programmatically, such as VBA or .NET languages. Specifically, the API enables you to create, import and export XBRL reports, read and write form data.

Platform requirements:

- .NET Framework 4.5 or later;
- Visual Studio Tools for Office runtime, Version 4.0 or later.

If you intend to distribute the API to other clients, note the following:

1. Excel and Altova Solvency II XBRL add-in for Excel must be installed on each client machine.
2. Each API client that uses your custom code or application must hold a valid Altova Solvency II XBRL add-in for Excel license.
7.1 Access API

You can access COM API of the add-in programmatically in one of the following ways:

- From Excel by using Visual Basic for Applications;
- From your custom program by using the Office Interop API from any .NET language.

The main interface is the IAutomationAPI interface. The code listing below shows how to create a new instance of the automation object in VBA:

```vbnet
Dim automationObject As Object
Set automationObject = Application.COMAddIns.Item("Altova.SolvencyIIAddIn").Object
```

Access COM API from a .NET project

To access the COM API from a Visual Studio .NET project, add a reference to the assemblies Microsoft Office Object Library (office.dll) and Microsoft.Office.Interop.Excel, as shown below:

1. Right-click your project's name in Solution Explorer and then click Add Reference. The Add Reference dialog box appears.
2. On the Assemblies page, select office and Microsoft.Office.Interop.Excel from the component list and click OK.

If you do not see the assemblies above, take the following steps:

1. Make sure that you have installed Microsoft Office and that you have selected the .NET Programmability Support feature for Excel (see screenshot below).
2. Run the Visual Studio setup and make sure that you choose the **Office/SharePoint development** workload or **Microsoft Office Developer Tools**, if applicable.

For more information about accessing Office interop assemblies from .NET projects, see the Microsoft documentation. After adding the assembly references, you can create a new add-in instance as shown below.

```csharp
// Make sure that your project references the following two assemblies:
// * Microsoft Office Object Library (office.dll)
var app = new Microsoft.Office.Interop.Excel.Application();
dynamic automationObject = app.COMAddIns.Item("Altova.SolvencyIIAddIn").Object;
```
7.2  C# Example

Each of the C# code listings illustrated below represents the Program.cs file in a standard .NET Framework console application. Before attempting to run the program code, make sure that you have added the required assembly references to the Visual Studio project, as described in Access API.

Export XBRL from Excel

The code listing below shows how to create a new Excel workbook using a specific XBRL entry point, populate a few properties and data cells, and save data to an XBRL file on the disk. The code will help you save both the Excel workbook and the XBRL file to the C:\XBRL_Examples directory.

```csharp
using System;
using Excel = Microsoft.Office.Interop.Excel;
	namespace SolvencyAddInClient
{
    class Program
    {
        static void Main(string[] args)
        {
            var app = new Excel.Application();
            try
            {
                // Suppress Excel alerts and create a new workbook
                Console.WriteLine("Creating a new workbook...";
                app.DisplayAlerts = false;
                var wb = (Excel._Workbook)(app.Workbooks.Add());

                // Get the Automation API object
                Console.WriteLine("Getting the COM automation object...");
                dynamic addIn = app.COMAddIns.Item("Altova.SolvencyIIAddIn");
                dynamic automationObject = addIn.Object;

                // Create a new report using taxonomy entry point
                Console.WriteLine("Creating the new report...");

                // Set the report properties
                Console.WriteLine("Setting the report properties...");
                var rp = automationObject.GetReportProperties(wb);
                rp.ReportingEntityScheme = "http://standards.iso.org/iso/17442";
                rp.ReportingEntityIdentifier = "123456";

                // Get the table by its code and ensure it is included in this report
                var tab = automationObject.GetTableTree(wb);
                var tableName = tab.FindTableByRCCode("S.01.01.10.01");
                tableName.IncludeInFiling = true;

                // Populate cells
                Console.WriteLine("Populating cells...");
            }
        }
    }
}
```
tableNode.Forms.Item(0).DataRange.Item(1).Value = "1 - Reported"
tableNode.Forms.Item(0).DataRange.Item(2).Value = "2 - Not reported as no life and health SLT business"

// Export data to XBRL
Console.WriteLine("Exporting the XBRL instance...");
automationObject.ExportXBRL(wb, @"C:\XBRL_Examples\Example.xbrl");

// Save and close the .xlsx workbook
Console.WriteLine("Saving the .xlsx file...");
wb.SaveAs(@"C:\XBRL_Examples\Example.xlsx");
wb.Close();

Console.WriteLine("Task completed.");
}
catch (Exception e)
{
    Console.WriteLine(e.Message);
}
finally
{
    app.DisplayAlerts = true;
    app.Quit();
}

Import XBRL to Excel

The code listing below shows how to convert an XBRL file to an Excel file. To run this example successfully, an XBRL instance file must exist at C:\XBRL_Examples\Example.xbrl. Otherwise, change the path accordingly. You can create an XBRL file by running the previous code listing or manually from Excel by using the Export command. For more information, see Export Data to XBRL.

using System;
using Excel = Microsoft.Office.Interop.Excel;

namespace SolvencyAddInClient
{
    class Program
    {
        static void Main(string[] args)
        {
            var app = new Excel.Application();
            try
            {
                // Suppress Excel alerts and create a new workbook
                Console.WriteLine("Creating a new workbook...");
                app.DisplayAlerts = false;
                var wb = (Excel._Workbook)(app.Workbooks.Add());

                // Get the Automation API object
                Console.WriteLine("Getting the COM automation object...");
            }
        }
    }
}
dynamic addIn = app.COMAddIns.Item("Altova.SolvencyIIAddIn");
dynamic automationObject = addIn.Object;

// Import EBA report eba_example.xbrl
Console.WriteLine("Importing XBRL...");
automationObject.ImportXBRL(@"C:\XBRL_Examples\Example.xbrl");

// Save as xlsx
Console.WriteLine("Saving the .xlsx file...");
wb.SaveAs(@"C:\XBRL_Examples\Example.xlsx");
wб.Close();

Console.WriteLine("Task complete.");
} catch (Exception e)
{
    Console.WriteLine(e.Message);
} finally
{
    app.DisplayAlerts = true;
    app.Quit();
}
}
7.3 VBA Example

The code listing below shows how to insert an XBRL report into an Excel file and populate the first cell using VBA.

' VBA Example 1:
' Creates a new Solvency II Quarterly Solo Report with form 'S.01.02.01.01' and sets the value of the first cell
Sub Example1()
    Dim addIn As COMAddIn
    Dim automationObject As Object
    Dim Workbook As Object
    Dim tableTree As Object
    Dim tableNode As Object

    ' Get the Automation API object
    Set addIn = Application.COMAddIns.Item("Altova.SolvencyIIAddIn")
    Set automationObject = addIn.Object

    ' Insert a new Solvency II Quarterly Solo Report
    Set tableTree = automationObject.GetTableTree(Workbook)

    ' Find table tree node for form 'S.01.02.01.01'
    Set tableNode = tableTree.FindTableByRCCode("S.01.02.01.01")

    ' Include this table in the filing (this will also create the respective Excel worksheet)
    tableNode.IncludeInFiling = True

    ' Get the Data range of this form and set the value of the first cell to "test"
    tableNode.Forms.Item(0).DataRange.Item(1).Value = "test"
End Sub
7.4 API Reference

This section provides reference to the objects of the Altova Solvency II XBRL add-in for Excel COM API. The objects are described in a generic manner, since the API may be used with virtually any language that supports calling a COM object.

7.4.1 Interfaces

7.4.1.1 IAutomationAPI

The IAutomationAPI interface is the main automation interface of Altova Solvency II XBRL add-in for Excel. This interface is the starting point for doing any further operations with the add-in, retrieving or creating other related automation objects. It allows you to create, import and export reports, read and write form data. For information about creating an instance of this interface, see Accessing the API.

Methods

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InsertNewReport</td>
<td>Use this method to insert a new report of the respective taxonomy entry point.</td>
</tr>
<tr>
<td>ImportXBRL</td>
<td>Imports an XBRL report. Returns the Excel workbook that contains the imported XBRL report.</td>
</tr>
<tr>
<td>ExportXBRL</td>
<td>Exports the report from the respective Excel workbook to XBRL and validates it. To get the validation results, call GetValidationReport after calling this method.</td>
</tr>
<tr>
<td>Validate</td>
<td>Validates the current report. To get the validation results, call GetValidationReport after calling this method.</td>
</tr>
<tr>
<td>GetValidationReport</td>
<td>Returns an IValidationReport object representing the validation report currently shown in the validation report pane.</td>
</tr>
<tr>
<td>GetEntryPointTree</td>
<td>Returns an IEntryPointTree object representing a tree of the available taxonomy entry points.</td>
</tr>
<tr>
<td>GetTableTree</td>
<td>Returns an ITableTree object representing the tree of the available tables in the report opened in the specified Excel workbook.</td>
</tr>
<tr>
<td>GetReportProperties</td>
<td>Returns an IReportProperties object providing the properties of the XBRL report.</td>
</tr>
<tr>
<td>GetFormProperties</td>
<td>Returns an IFormProperties object providing the properties of the XBRL form in the specified Excel worksheet.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GetCellProperties</td>
<td>Returns an ICellProperties object providing the properties of the fact in the specified Excel range.</td>
</tr>
</tbody>
</table>

### 7.4.1.1.1 Methods

#### 7.4.1.1.1 InsertNewReport

Use this method to insert a new report of the respective taxonomy entry point.

**Signature**

```csharp
```

**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>entryPointUrl</td>
<td>String</td>
<td>The URI of the taxonomy a report should be created for. Use the GetEntryPointTree method to get the available entry points.</td>
</tr>
</tbody>
</table>

#### 7.4.1.1.2 ImportXBRL

Imports an XBRL report. Returns the Excel workbook that contains the imported XBRL report.

**Signature**

```csharp
```

**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>inputFile</td>
<td>String</td>
<td>The path to the XBRL report which should be imported.</td>
</tr>
</tbody>
</table>
7.4.1.1.1.3  **ExportXBRL**  
Exports the report from the respective Excel workbook to XBRL and validates it. To get the validation results, call `GetValidationReport` after calling this method.

**Signature**


**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>outputFile</td>
<td>String</td>
<td>The path to the output XBRL file.</td>
</tr>
</tbody>
</table>

7.4.1.1.1.4  **Validate**  
Validates the current report. To get the validation results, call `GetValidationReport` after calling this method.

**Signature**


**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>

7.4.1.1.1.5  **GetValidationReport**  
Returns an `IValidationReport` object representing the validation report currently shown in the validation report pane.

**Signature**

Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>workbook</td>
<td>Microsoft.Office.Interop.Excel.Workbook</td>
<td>The Excel workbook from which to get the validation report.</td>
</tr>
</tbody>
</table>

7.4.1.1.1.6 GetEntryPointTree

Returns an IEntryPointTree object representing a tree of the available taxonomy entry points.

Signature

GetEntryPointTree() \rightarrow IEntryPointTree

7.4.1.1.1.7 GetTableTree

Returns an ITableTree object representing the tree of the available tables in the report opened in the specified Excel workbook.

Signature

GetTableTree(in workbook:Microsoft.Office.Interop.Excel.Workbook) \rightarrow ITableTree

Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>
7.4.1.1.1.8 GetReportProperties

Returns an IReportProperties object providing the properties of the XBRL report.

**Signature**

```
```

**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>

7.4.1.1.1.9 GetFormProperties

Returns an IFormProperties object providing the properties of the XBRL form in the specified Excel worksheet.

**Signature**

```
```

**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>
7.4.1.1.1.10  GetCellProperties

Returns an ICellProperties object providing the properties of the fact in the specified Excel range.

**Signature**

```
```

**Parameters**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell</td>
<td>Microsoft.Office.Interop.Excel.Range</td>
<td>An Excel cell containing an XBRL fact (must be within the data range of a form).</td>
</tr>
</tbody>
</table>

7.4.1.2  IEntryPointTree

The IEntryPointTree interface provides information about the available taxonomy entry points in a structured way.

**Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>Read-only. Returns a collection of IEntryPointGroup representing the available taxonomy groups, for example, &quot;EIOPA Solvency II 2.4&quot; or &quot;Bank of England Insurance Taxonomy 1.1&quot;.</td>
</tr>
</tbody>
</table>

7.4.1.2.1  Properties

7.4.1.2.1.1  Groups

Returns a collection of IEntryPointGroup representing the available taxonomy groups, for example, "EIOPA Solvency II 2.4" or "Bank of England Insurance Taxonomy 1.1".

**Signature**

```
Groups : Collection
```
7.4.1.3 IEntryPointGroup

The IEntryPointGroup interface provides information about a group of taxonomy entry points.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Read-only. The Name of the group. For example, &quot;EIOPA Solvency II 2.4&quot;.</td>
</tr>
<tr>
<td>Country</td>
<td>Read-only. The country code for which this entry point group is relevant.</td>
</tr>
<tr>
<td></td>
<td>This is set only for country-specific taxonomies such as &quot;Bank of England Insurance Taxonomy&quot;.</td>
</tr>
<tr>
<td>Version</td>
<td>Read-only. The version of the taxonomy. May be empty for sub-groups.</td>
</tr>
<tr>
<td>IsCurrentVersion</td>
<td>Read-only. True if this group contains the current version of the taxonomy;</td>
</tr>
<tr>
<td></td>
<td>false for older versions.</td>
</tr>
<tr>
<td>Groups</td>
<td>Read-only. A collection of IEntryPointGroup representing the sub-groups of this entry point group.</td>
</tr>
<tr>
<td>EntryPoints</td>
<td>Read-only. A collection of IEntryPoint representing the specific taxonomy entry points of this group.</td>
</tr>
</tbody>
</table>

7.4.1.3.1 Properties

7.4.1.3.1.1 Name

The Name of the group. For example, "EIOPA Solvency II 2.4".

Signature

Name : String
7.4.1.3.1.2  Country
The country code for which this entry point group is relevant. This is set only for country-specific taxonomies such as “Bank of England Insurance Taxonomy”.

Signature

| Country : String |

7.4.1.3.1.3  Version
The version of the taxonomy. May be empty for sub-groups.

Signature

| Version : String |

7.4.1.3.1.4  IsCurrentVersion
True if this group contains the current version of the taxonomy; false for older versions.

Signature

| IsCurrentVersion : Boolean |

7.4.1.3.1.5  Groups
A collection of IEntryPointGroup representing the sub-groups of this entry point group.

Signature

| Groups : Collection |
### 7.4.1.3.1.6 **EntryPoints**

A collection of `IEntryPoint` representing the specific taxonomy entry points of this group.

#### Signature

| EntryPoints : Collection |

### 7.4.1.4 **IEntryPoint**

The `IEntryPoint` interface provides information about a specific taxonomy entry point.

#### Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>Name</code></td>
<td>Read-only. The name of the entry point. For example, &quot;Quarterly Solvency II reporting Solo&quot;.</td>
</tr>
<tr>
<td><code>ShortName</code></td>
<td>Read-only. The abbreviated form of the entry points name. For example, &quot;QRS&quot;.</td>
</tr>
<tr>
<td><code>Version</code></td>
<td>Read-only. The version of the entry point. This may be empty (use the parents group version in this case).</td>
</tr>
<tr>
<td><code>Needs64Bit</code></td>
<td>Read-only. <strong>True</strong> if the entry point requires the 64-bit version of Excel; <strong>false</strong> otherwise.</td>
</tr>
</tbody>
</table>
7.4.1.4.1 Properties

7.4.1.4.1.1 Name
The name of the entry point. For example, "Quarterly Solvency II reporting Solo".

Signature

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
</tr>
</tbody>
</table>

7.4.1.4.1.2 ShortName
The abbreviated form of the entry point's name. For example, "QRS".

Signature

<table>
<thead>
<tr>
<th>ShortName</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
</tr>
</tbody>
</table>

7.4.1.4.1.3 Version
The version of the entry point. This may be empty (use the parent's group version in this case).

Signature

<table>
<thead>
<tr>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
</tr>
</tbody>
</table>

7.4.1.4.1.4 URI

Signature

<table>
<thead>
<tr>
<th>URI</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
</tr>
</tbody>
</table>
7.4.1.4.1.5 Needs64Bit

**True** if the entry point requires the 64-bit version of Excel; **false** otherwise.

**Signature**

| Needs64Bit : Boolean |

7.4.1.5 ITableTree

The **ITableTree** interface provides structured information about the available tables and forms in an XBRL report.

**Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodes</td>
<td>Read-only. Returns a collection of IGroupNode and ITableNode objects that represent groups of tables and tables respectively.</td>
</tr>
</tbody>
</table>

**Methods**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FindTableByRCCode</td>
<td>Returns the table node with the specified RC Code.</td>
</tr>
</tbody>
</table>

7.4.1.5.1 Properties

7.4.1.5.1.1 Nodes

Returns a collection of IGroupNode and ITableNode objects that represent groups of tables and tables respectively.

**Signature**

| Nodes : Collection |

7.4.1.5.2 Methods

7.4.1.5.2.1 FindTableByRCCode

Returns the table node with the specified RC Code.

Signature

\[
\text{FindTableByRCCode}(\text{in \ rcCode:string}) \rightarrow \text{ITableNode}
\]

Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rcCode</td>
<td>string</td>
<td>The RC Code of the desired table node.</td>
</tr>
</tbody>
</table>

7.4.1.6 IGroupNode

The IGroupNode interface provides information about a group of tables.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>Read-only. The name of the group of tables as displayed in the Solvency II Report Pane.</td>
</tr>
<tr>
<td>IsGroup</td>
<td>Read-only. This is always true for group nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.</td>
</tr>
<tr>
<td>IsTable</td>
<td>Read-only. This is always false for group nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.</td>
</tr>
<tr>
<td>Nodes</td>
<td>Read-only. Returns a collection of IGroupNode and ITableNode objects that represent groups of tables and tables respectively.</td>
</tr>
</tbody>
</table>
7.4.1.6.1 Properties

7.4.1.6.1.1 Text
The name of the group of tables as displayed in the Solvency II Report Pane.

Signature

| Text : String |

7.4.1.6.1.2 IsGroup
This is always true for group nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.

Signature

| IsGroup : Boolean |

7.4.1.6.1.3 IsTable
This is always false for group nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.

Signature

| IsTable : Boolean |

7.4.1.6.1.4 Nodes
Returns a collection of IGroupNode and ITableNode objects that represent groups of tables and tables respectively.

Signature

| Nodes : Collection |
7.4.1.7 ITableNode

The ITableNode interface provides information about a table.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Text</strong></td>
<td>Read-only. The name of the table as displayed in the Solvency II Report Pane.</td>
</tr>
<tr>
<td><strong>IsGroup</strong></td>
<td>Read-only. This is always false for table nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.</td>
</tr>
<tr>
<td><strong>IsTable</strong></td>
<td>Read-only. This is always true for table nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.</td>
</tr>
<tr>
<td><strong>Forms</strong></td>
<td>Read-only. Returns a collection of IForm objects that represent concrete forms that can be displayed as an Excel worksheet.</td>
</tr>
<tr>
<td><strong>CanAddSubForm</strong></td>
<td>Read-only. This is true if additional sub forms can be added to the table, for example, if the table has open aspects on the z-axis. In most cases, this is a form for each country or currency.</td>
</tr>
<tr>
<td><strong>FilingIndicator</strong></td>
<td>Read-only. The filing indicator code of the table.</td>
</tr>
<tr>
<td><strong>RCCCode</strong></td>
<td>Read-only. The RC code of the table.</td>
</tr>
<tr>
<td><strong>IncludeInFiling</strong></td>
<td>True if the table should be part of the report; false otherwise. If you set this property to true for the first time, a new worksheet for this table will be created.</td>
</tr>
</tbody>
</table>

Methods

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AddSubForm</strong></td>
<td>Creates a new sub-form of this table and returns the respective IForm object. This method returns null if no sub-form can be added.</td>
</tr>
</tbody>
</table>
7.4.1.7.1  Properties

7.4.1.7.1.1  Text

The name of the table as displayed in the Solvency II Report Pane.

Signature

| Text : String |

7.4.1.7.1.2  IsGroup

This is always false for table nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.

Signature

| IsGroup : Boolean |

7.4.1.7.1.3  IsTable

This is always true for table nodes. Use this to distinguish between IGroupNode and ITableNode members of the Nodes collection.

Signature

| IsTable : Boolean |

7.4.1.7.1.4  Forms

Returns a collection of IForm objects, which represent concrete forms that can be displayed as an Excel worksheet.

Signature

| Forms : Collection |
7.4.1.7.1.5  CanAddSubForm

This is true if additional sub forms can be added to the table, for example, if the table has open aspects on the z-axis. In most cases, this is a form for each country or currency.

Signature

CanAddSubForm : Boolean

7.4.1.7.1.6  FilingIndicator

The filing indicator code of the table.

Signature

FilingIndicator : String

7.4.1.7.1.7  RCCode

The RC code of the table.

Signature

RCCode : String

7.4.1.7.1.8  IncludeInFiling

True if the table should be part of the report; false otherwise. If you set this property to true for the first time, a new worksheet for this table will be created.

Signature

IncludeInFiling : Boolean
7.4.1.7.2 Methods

7.4.1.7.2.1 AddSubForm

Creates a new sub-form of this table and returns the respective IForm object. This method returns null if no sub-form can be added.

**Signature**

AddSubForm() -> IForm

7.4.1.8 IForm

The IForm interface provides information about a form.

**Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Text</strong> 79</td>
<td>Read-only. The name of the form as displayed in the Solvency II Report Pane.</td>
</tr>
<tr>
<td><strong>DataRange</strong> 79</td>
<td>Read-only. The Excel range containing the data of this form.</td>
</tr>
<tr>
<td><strong>FormSelectorRange</strong> 79</td>
<td>Read-only. The Excel range containing the form selector of this form. Namely, the cells that contain the data that distinguishes this form from the other forms of the same table. This returns null if the table does not consist of multiple forms.</td>
</tr>
<tr>
<td><strong>Worksheet</strong> 79</td>
<td>Read-only. The Excel worksheet containing this form. This may be null if IncludeInFiling is false.</td>
</tr>
<tr>
<td><strong>IncludeInFiling</strong> 80</td>
<td>True if this form should be part of the report; false otherwise. This shows/hides the respective Excel worksheet.</td>
</tr>
</tbody>
</table>

**Methods**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Remove</strong> 60</td>
<td>Removes this form and deletes the respective Excel worksheet.</td>
</tr>
</tbody>
</table>
7.4.1.8.1 Properties

7.4.1.8.1.1 Text
The name of the form as displayed in the Solvency II Report Pane.

Signature

| Text : String |

7.4.1.8.1.2 DataRange
The Excel range containing the data of this form.

Signature


7.4.1.8.1.3 FormSelectorRange
The Excel range containing the form selector of this form. Namely, the cells that contain the data that distinguishes this form from the other forms of the same table. This returns null if the table may not consist of multiple forms.

Signature


7.4.1.8.1.4 Worksheet
The Excel worksheet containing this form. This may be null if IncludeInFiling is false.

Signature

7.4.1.8.1.5 IncludeInFiling

**True** if this form should be part of the report; **false** otherwise. This shows/hides the respective Excel worksheet.

**Signature**

| IncludeInFiling | Boolean |

7.4.1.8.2 Methods

7.4.1.8.2.1 Remove

Removes this form and deletes the respective Excel worksheet.

**Signature**

| Remove() | -> Void |

7.4.1.9 IReportProperties

The **IReportProperties** interface displays properties of the whole XBRL report.

**Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EntryPointURI</td>
<td>Read-only. The URI of the taxonomy entry point. For example, &quot;Quarterly Solvency II reporting Solo&quot;.</td>
</tr>
<tr>
<td>EntryPointModuleName</td>
<td>Read-only. The module name of the taxonomy entry point. For example, &quot;<a href="http://eiopa.europa.eu/eu/xbrl/s2md/tws/solvency/solvency2/2019-07-15/mod/qrs.xsd">http://eiopa.europa.eu/eu/xbrl/s2md/tws/solvency/solvency2/2019-07-15/mod/qrs.xsd</a>&quot;.</td>
</tr>
<tr>
<td>EntryPointModuleDPMID</td>
<td>Read-only. The Data Point Model Database ID of the module. For example, &quot;218&quot;.</td>
</tr>
<tr>
<td>ReportingEntityScheme</td>
<td>The scheme of the reporting entity. For example, &quot;<a href="http://standards.iso.org/iso/17442">http://standards.iso.org/iso/17442</a>&quot;.</td>
</tr>
<tr>
<td>ReportingEntityIdentifier</td>
<td>The identifier of the reporting entity.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>ReferenceDate</strong></td>
<td>The reference date of the report.</td>
</tr>
<tr>
<td><strong>MonetaryCellsAccuracy</strong></td>
<td>The accuracy of monetary facts in this report. Applies to each monetary fact for which no separate accuracy was specified (at cell or table level).</td>
</tr>
<tr>
<td><strong>PercentageCellsAccuracy</strong></td>
<td>The accuracy of percentage facts in this report. Applies to each percentage fact for which no separate accuracy was specified (at cell or table level).</td>
</tr>
<tr>
<td><strong>PureCellsAccuracy</strong></td>
<td>The accuracy of pure facts in this report. Applies to each pure fact for which no separate accuracy was specified (at cell or table level).</td>
</tr>
<tr>
<td><strong>ReportingCurrency</strong></td>
<td>The reporting currency used in the XBRL report as an ISO 4217 currency code.</td>
</tr>
<tr>
<td><strong>ReportingLanguage</strong></td>
<td>The language of footnotes in the XBRL report as a BCP-47 language tag. For example, &quot;en-US&quot;.</td>
</tr>
</tbody>
</table>

7.4.1.9.1 Properties

7.4.1.9.1.1 EntryPointURI

The URI of the taxonomy entry point. For example, "Quarterly Solvency II reporting Solo".

**Signature**

```
EntryPointURI : String
```

7.4.1.9.1.2 EntryPointModuleName

The module name of the taxonomy entry point. For example, "http://eiopa.europa.eu/eu/xbrl/s2md/tws/solvency/solvency2/2019-07-15/mod/qrs.xsd".

**Signature**

```
EntryPointModuleName : String
```
7.4.1.9.1.3  EntryPointModuleDPMID
The Data Point Model Database ID of the module. For example, "218".

Signature

| EntryPointModuleDPMID : String |

7.4.1.9.1.4  ReportingEntityScheme
The scheme of the reporting entity. For example, "http://standards.iso.org/iso/17442".

Signature

| ReportingEntityScheme : String |

7.4.1.9.1.5  ReportingEntityIdentifier
The identifier of the reporting entity.

Signature

| ReportingEntityIdentifier : String |

7.4.1.9.1.6  ReferenceDate
The reference date of the report.

Signature

| ReferenceDate : DateTime |

7.4.1.9.1.7  MonetaryCellsAccuracy
The accuracy of monetary facts in this report. Applies to each monetary fact for which no separate accuracy was specified (at cell or table level).
**Signature**

MonetaryCellsAccuracy : String

**7.4.1.9.1.8 PercentageCellsAccuracy**

The accuracy of percentage facts in this report. Applies to each percentage fact for which no separate accuracy was specified (at cell or table level).

**Signature**

PercentageCellsAccuracy : String

**7.4.1.9.1.9 PureCellsAccuracy**

The accuracy of pure facts in this report. Applies to each pure fact for which no separate accuracy was specified (at cell or table level).

**Signature**

PureCellsAccuracy : String

**7.4.1.9.1.10 ReportingCurrency**

The reporting currency used in the XBRL report as an ISO 4217 currency code.

**Signature**

ReportingCurrency : String

**7.4.1.9.1.11 ReportingLanguage**

The language of footnotes in the XBRL report as an BCP-47 language tag. For example, "en-US".

**Signature**

ReportingLanguage : String
7.4.1.10 IFormProperties

The IFormProperties interface displays properties of one form of the report.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MonetaryCellsAccuracy</td>
<td>The accuracy of monetary facts in this form. Applies to each monetary fact for which no separate accuracy was specified.</td>
</tr>
<tr>
<td>PercentageCellsAccuracy</td>
<td>The accuracy of percentage facts in this form. Applies to each percentage fact for which no separate accuracy was specified.</td>
</tr>
<tr>
<td>PureCellsAccuracy</td>
<td>The accuracy of pure facts in this form. Applies to each pure fact for which no separate accuracy was specified.</td>
</tr>
<tr>
<td>TableRCCode</td>
<td>Read-only.</td>
</tr>
<tr>
<td>FilingIndicatorCode</td>
<td>Read-only.</td>
</tr>
<tr>
<td>Label</td>
<td>Read-only.</td>
</tr>
<tr>
<td>VerboseLabel</td>
<td>Read-only.</td>
</tr>
<tr>
<td>TableID</td>
<td>Read-only.</td>
</tr>
<tr>
<td>TableDPMID</td>
<td>Read-only.</td>
</tr>
<tr>
<td>ValidationRules</td>
<td>Read-only. The collection of validation rules that apply to this table.</td>
</tr>
</tbody>
</table>

7.4.1.10.1 Properties

7.4.1.10.1.1 MonetaryCellsAccuracy

The accuracy of monetary facts in this form. Applies to each monetary fact for which no separate accuracy was specified.
Signature

MonetaryCellsAccuracy : String

7.4.1.10.1.2 PercentageCellsAccuracy
The accuracy of percentage facts in this form. Applies to each percentage fact for which no separate accuracy was specified.

Signature

PercentageCellsAccuracy : String

7.4.1.10.1.3 PureCellsAccuracy
The accuracy of pure facts in this form. Applies to each pure fact for which no separate accuracy was specified.

Signature

PureCellsAccuracy : String

7.4.1.10.1.4 TableRCCode
The RC Code of the table. For example, "S.01.01.02.01".

Signature

TableRCCode : String

7.4.1.10.1.5 FilingIndicatorCode
The filing indicator code of the table. For example, "S.01.01".

Signature

FilingIndicatorCode : String
7.4.1.10.1.6  Label
The label of the table. For example, "Content of the submission".

Signature
Label : String

7.4.1.10.1.7  VerboseLabel
The verbose label of the table. For example, "S.01.01.02.01 Content of the submission".

Signature
VerboseLabel : String

7.4.1.10.1.8  TableID
The id of the table resource. For example, "s2md_tS.01.01.02.01".

Signature
TableID : String

7.4.1.10.1.9  TableDPMID
The Data Point Model Database ID of the table. For example, "429.1431".

Signature
TableDPMID : String
7.4.1.10.1.10 ValidationRules

The collection of validation rules that apply to this table.

Signature

ValidationRules : Collection

7.4.1.11 ICellProperties

The ICellProperties interface displays properties of one fact of the report.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>The accuracy of the numeric item as string. This may be “INF” or a number representing the number of decimal places for which this fact is accurate.</td>
</tr>
<tr>
<td></td>
<td>This is null for non-numeric items.</td>
</tr>
<tr>
<td>Footnote</td>
<td>The footnote of the fact.</td>
</tr>
<tr>
<td>Name</td>
<td>Read-only. The concept name of the fact. For example, “eba_met:mi256”.</td>
</tr>
<tr>
<td>Type</td>
<td>Read-only. The type of the fact. For example, “xbrli:monetaryItemType”.</td>
</tr>
<tr>
<td>Label</td>
<td>Read-only. The label of the fact. For example, “Cash value”.</td>
</tr>
<tr>
<td>DPMID</td>
<td>Read-only. The Data Point Model Database ID of this fact. For example, “6062”.</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Read-only. The collection of IDimension objects representing the dimensions for which this fact is reported.</td>
</tr>
</tbody>
</table>
7.4.1.11.1 Properties

7.4.1.11.1.1 Accuracy
The accuracy of the numeric item as string. This may be "INF" or a number representing the number of decimal places for which this fact is accurate.

This is null for non-numeric items.

Signature
Accuracy : String

7.4.1.11.1.2 Footnote
The footnote of the fact.

Signature
Footnote : String

7.4.1.11.1.3 Name
The concept name of the fact. For example, "eba_met:mi256".

Signature
Name : String

7.4.1.11.1.4 Type
The type of the fact. For example, "xbrli:monetaryItemType".

Signature
Type : String
7.4.11.1.5  **Label**
The label of the fact. For example, "Cash value".

**Signature**
```
Label : String
```

7.4.11.1.6  **DPMID**
The Data Point Model Database ID of this fact. For example, "6062".

**Signature**
```
DPMID : String
```

7.4.11.1.7  **Dimensions**
The collection of IDimension objects representing the dimensions for which this fact is reported.

**Signature**
```
Dimensions : Collection
```

7.4.12  **IDimension**
The IDimension interface provides basic information about a dimension and its value.

**Properties**
```
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Read-only. The name of the dimension.</td>
</tr>
<tr>
<td>Value</td>
<td>Read-only. The value of the dimension as String.</td>
</tr>
</tbody>
</table>
```
### 7.4.1.12.1 Properties

#### 7.4.1.12.1.1 Name

The name of the dimension.

**Signature**

```
Name : String
```

#### 7.4.1.12.1.2 Value

The value of the dimension as `String`.

**Signature**

```
Value : String
```

### 7.4.1.13 IValidationReport

The `IValidationReport` interface provides access to the validation report.

**Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messages</td>
<td>Read-only. Returns a collection of <code>IValidationReportMessage</code> representing the main lines of the validation report.</td>
</tr>
</tbody>
</table>

**Methods**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CreateTextReport</td>
<td>Returns a textual representation of the validation report.</td>
</tr>
<tr>
<td>CreateHTMLReport</td>
<td>Returns an HTML representation of the validation report.</td>
</tr>
</tbody>
</table>
7.4.1.13.1 Properties

7.4.1.13.1.1 Messages
Returns a collection of IValidationReportMessage representing the main lines of the validation report.

Signature

| Messages : Collection |

7.4.1.13.2 Methods

7.4.1.13.2.1 CreateTextReport
Returns a textual representation of the validation report.

Signature

| CreateTextReport() -> String |

7.4.1.13.2.2 CreateHTMLReport
Returns an HTML representation of the validation report.

Signature

| CreateHTMLReport() -> String |

7.4.1.14 IValidationReportMessage

The IValidationReportMessage interface represents the main line in the validation report.

Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td>Read-only.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Severity</td>
<td>Returns the severity of this report message as String. Possible values are as follows: &quot;success&quot;, &quot;info&quot;, &quot;warning&quot; and &quot;error&quot;.</td>
</tr>
<tr>
<td>Text</td>
<td>Read-only. Returns the value of this report message.</td>
</tr>
<tr>
<td>Details</td>
<td>Read-only. Returns the details of this report message (if any) as String.</td>
</tr>
</tbody>
</table>

### 7.4.1.14.1 Properties

#### 7.4.1.14.1.1 Severity

Returns the severity of this report message as String. Possible values are as follows: "success", "info", "warning" and "error".

**Signature**

```plaintext
Severity : String
```

#### 7.4.1.14.1.2 Text

Returns the value of this report message.

**Signature**

```plaintext
Text : String
```

#### 7.4.1.14.1.3 Details

Returns the details of this report message (if any) as String.

**Signature**

```plaintext
Details : String
```
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This license-metering technology uses your local area network (LAN) to communicate between instances of the application running on different computers.

Single license
When the application starts up, as part of the license metering process, the software sends a short broadcast datagram to find any other instance of the product running on another computer in the same network segment. If it doesn't get any response, it will open a port for listening to other instances of the application.

Multi-user license
If more than one instance of the application is used within the same LAN, these instances will briefly communicate with each other on startup. These instances exchange key-codes in order to help you to better determine that the number of concurrent licenses purchased is not accidentally violated. This is the same kind of license metering technology that is common in the Unix world and with a number of database development tools. It allows Altova customers to purchase reasonably-priced concurrent-use multi-user licenses.

We have also designed the applications so that they send few and small network packets so as to not put a burden on your network. The TCP/IP ports (2799) used by your Altova product are officially registered with the IANA (see the IANA Service Name Registry for details) and our license-metering module is tested and proven technology.

If you are using a firewall, you may notice communications on port 2799 between the computers that are running Altova products. You are, of course, free to block such traffic between different groups in your organization, as long as you can ensure by other means, that your license agreement is not violated.

Note about certificates
Your Altova application contacts the Altova licensing server (link.altova.com) via HTTPS. For this communication, Altova uses a registered SSL certificate. If this certificate is replaced (for example, by your IT department or an external agency), then your Altova application will warn you about the connection being insecure. You could use the replacement certificate to start your Altova application, but you would be doing this at your own risk. If you see a Non-secure connection warning message, check the origin of the certificate and consult your IT team (who would be able to decide whether the interception and replacement of the Altova certificate should continue or not).
If your organization needs to use its own certificate (for example, to monitor communication to and from client machines), then we recommend that you install Altova's free license management software, Altova LicenseServer, on your network. Under this setup, client machines can continue to use your organization's certificates, while Altova LicenseServer can be allowed to use the Altova certificate for communication with Altova.
8.3 Altova End-User License Agreement

- The Altova End-User License Agreement is available here: [https://www.altova.com/legal/eula](https://www.altova.com/legal/eula)
- Altova's Privacy Policy is available here: [https://www.altova.com/privacy](https://www.altova.com/privacy)
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