

SAP Open Information Warehouse



HELP.CAOIW

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SAP Open Information Warehouse

SAP Open Information Warehouse Frontend for Microsoft Excel

This HelpFile contains a short introduction to the SAP Open Information Warehouse (OIW) and the OIW Frontend for Excel, detailed reference material and a glossary of OIW-specific terminology.

[SAP Open Information Warehouse \[Seite 7\]](#)

[OIW Frontend for Microsoft Excel \[Seite 8\]](#)

[Using the OIW Frontend for Excel \[Seite 9\]](#)

[What should I do, if ... ? \[Seite 23\]](#)

[Installation \[Seite 25\]](#)

[Glossary \[Seite 30\]](#)

SAP Open Information Warehouse

The SAP Open Information Warehouse (OIW) unifies the various information systems of the R/3 System into a single system. You can use the OIW to gain an overview of the various information units ("[Info Objects \[Seite 36\]](#)") in the R/3 System and to combine particularly relevant information units into queries.

The OIW obtains the answers to queries without requiring you to understand the access paths involved in the R/3 System. To use the OIW for data retrieval, you do not need any knowledge of the tables, programs, reports or information systems, etc., that are held in the system. These structures only show up as meta data (i.e. data about data) in the [OIW Catalog \[Seite 39\]](#).

The OIW Catalog defines which data the OIW can retrieve along which access paths. The customer can individually change the contents of the OIW Catalog when customizing the Open Information Warehouse. As a general rule, the OIW does not maintain its own data stores. It only holds links to certain data sources in the R/3 information systems.

The OIW is "open" in that it contains a programming interface for connecting to arbitrary external applications. The [OIW Frontend for Microsoft Excel \[Seite 8\]](#) is based on this programming interface. This special OIW Frontend uses the so-called [Add-in \[Seite 32\]](#) capability of Microsoft Excel. You can use the user interface elements of the OIW Frontend to construct queries in the OIW and to embed these in Microsoft Excel worksheets.

The programming interface of the OIW is, according to the general rules for SAP Business APIs, established in the Business Object Repository (BOR). It consists of only two, very general functions:

- "Read the OIW Catalog" and
- "Run an OIW query".

Both functions are assigned as methods to the object *OIW* in the BOR.

OIW Frontend for Microsoft Excel

The OIW Frontend for Microsoft Excel is implemented in the [Add-in \[Seite 32\]](#) SAPOIW. When this add-in is opened, either manually or automatically using the add-in manager, the OIW Frontend becomes active in Microsoft Excel. This is indicated by the following:

- the “SAP Open Information Warehouse” tool bar is displayed, and
- the corresponding menu entries appear in Excel’s Data menu.

The OIW Frontend for Excel serves two purposes:

- You can use the OIW Frontend tool bar or the menu options to embed new OIW queries in Microsoft Excel worksheets as [Array Functions \[Seite 33\]](#) and to change existing embedded queries.
- When calculating the embedded array functions, the OIW Frontend automatically tries to call the corresponding OIW queries in the R/3 System. The results of these queries then appear as values of the array functions in the Excel worksheet.

Since the queries are updated whenever the Excel “recalculation” function is executed, you can be sure that your data is consistent as long as the automatic calculation mode is selected in Excel and the OIW add-in is active.

For example, you could store worksheets with query definitions so that the R/3 data is automatically updated as soon as you open the worksheets again. Another option is to make the OIW queries dependent on selection values that are obtained from the cells of the Excel worksheet. If you change the values in these selection cells, then the next time that the Excel functions are calculated they will automatically access the current data in the R/3 System. Up-to-date data, corresponding to the modified selection values, will then be displayed in the worksheet. This technique can be used to simulate [Drill-Down \[Seite 34\]](#) functionality in Excel worksheets.



See also [Using the OIW Frontend for Excel \[Seite 9\]](#).

Using the OIW Frontend for Excel

Each of the functions of the OIW Frontend for Excel is described in this section. The names given to the various functions correspond to the descriptions of the symbols on the “SAP Open Information Warehouse” tool bar.

Most of the functions can also be selected from the Microsoft Excel “Data” menu using the same names, as long as the OIW Frontend is active in Excel. One difference is that there are also some functions available on the tool bar that are not part of the OIW Frontend, but are simply part of the normal Excel functionality. These functions do not appear in the OIW-specific part of the Data menu. On the other hand some rarely used OIW-specific functions are only available from the menu, and not from the tool bar. These functions are marked (*) below.

[Defining and Changing Queries \[Seite 11\]](#)

- *Define query*
- *Adjust result area*

[Storing Query Results Permanently \[Seite 13\]](#)

- *Snapshot*

[Manual and Automatic Query Recalculation \[Seite 18\]](#)

- *Re-calculate query*
- *Autom. calculation on*
- *Autom. calculation off*

[Creating and Displaying Relationships in Queries \[Seite 16\]](#)

- *SAP double-click (*)*
- *Define SAP double-click*
- *Show relationships*

[Logging On and Off at the R/3 System \[Seite 19\]](#)

- *R/3 connection information*
- *Logoff from R/3*

[Repairing Outdated Links \[Seite 21\]](#)

- *Redirect Links (*)*

[Recording a Trace File \[Seite 22\]](#)

- *Trace (*)*
- *Show Trace (*)*

Using the OIW Frontend for Excel



Further important information on using worksheets with embedded OIW queries can be found in the following sections:

[OIW Frontend for Microsoft Excel \[Seite 8\]](#)

[Entering Selection Values for OIW Queries \[Seite 20\]](#)

[What should I do, if ... ? \[Seite 23\]](#)

[Installation \[Seite 25\]](#)

Defining and Changing Queries

The *Define Query* function is used to create new queries and to embed them as [Array Functions \[Seite 33\]](#), as well as to change existing embedded queries. The exact effect of this function depends on the cells (or range of cells) that are currently active in Excel when the function is selected:

- If the currently active Excel cell is part of a range that already contains an OIW query, then this query is modified.
- If a rectangular range of cells consisting of at least two cells is active, and this range does not contain an OIW query, then a new query is created for this range.
- If neither of these are the case, then you are requested to specify a rectangular range of cells, the so-called [Result Area \[Seite 35\]](#). A query is then created for this area.

In both cases the [OIW Browser \[Seite 38\]](#) is started and the cells affected are displayed in the worksheet with red hatching. While a query is being edited, the current definition of the query is displayed in the OIW Browser.

- The left-hand side of the OIW Browser shows the contents of the Open Information Warehouse. The information displayed may be updated with the *Refresh Catalog* pushbutton.
See also [Display of the OIW Catalog in the OIW Browser \[Seite 15\]](#).
- The right-hand side of the OIW Browser is used to monitor the current status of the query definition.
See also [Editing a Query in the OIW Browser \[Seite 14\]](#).

You can exit from the query definition tool using either the *OK* or the *Cancel* pushbutton. The *OK* pushbutton causes the definition of the query as currently displayed in the OIW Browser to be written back to the worksheet; the *Cancel* pushbutton causes the previous status of the worksheet to be restored as far as this is still possible.

You can use the *Adjust result area* function to modify the height of the result area after the query definition has been stored. You should select any one of the cells in the result area before starting this function.

When you work with functions *Define Query* or *Adjust result area*, it may become necessary to widen, extend, or shorten the result area. If this is the case, the section [Changing the Size of Result Areas \[Seite 12\]](#) gives you some more information on how to proceed.

Changing the Size of Result Areas

Changing the Size of Result Areas

When you work with functions *Define Query* or *Adjust result area*, you may need to widen, extend, or shorten the result area. In this case, a dialog appears which allows you to choose whether this change of size should be combined with a deletion / insertion of cells, rows, or columns. In this way you can control the result area's position in relation to other areas in your worksheet.

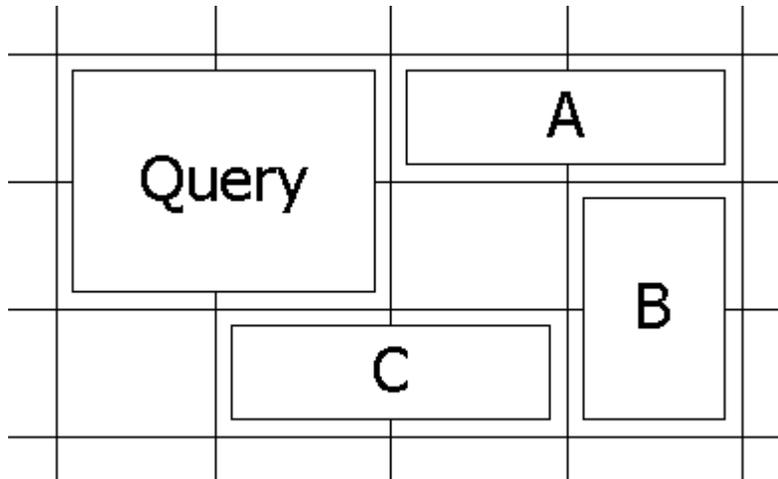
You can choose one of three options:

- Do not insert / delete anything
- Insert / delete cells at the area's right / lower border
- Insert / delete full rows / columns at the area's right / lower border

Please note, however, that each of the three may fail in certain cases - if other, conflicting array functions are defined in the worksheet.



In the following situation, another column is to be added to the result area labeled "Query".



- If area A holds an array function, the option "Do not insert anything" will fail, because half of A would have to be covered
- If area B holds an array function, the option "Insert cells at the right border" will fail, because the upper half of B would have to be shifted away from the lower half
- If area C holds an array function, the option "Insert a full column" will fail, because the new column would have to run right through C

Storing Query Results Permanently

The use of [Array Functions \[Seite 33\]](#) allows the OIW Frontend for Excel to ensure that the values displayed in the [Result Area \[Seite 35\]](#) of a query are always up-to-date. This is the case even when you store worksheets containing query definitions. As soon as you load these worksheets again, the OIW Frontend for Excel will attempt to fetch current data from the R/3 System.

However, this effect is not always what is wanted, since the update action can lead to fairly time-consuming processing taking place in the R/3 System. Therefore the query update can be temporarily deactivated. This is described in the [Manual and Automatic Query Recalculation \[Seite 18\]](#) section.

You also have the option of storing the current results of OIW queries in worksheets permanently, thus eliminating the active connections between the displayed data and the queries. This can be done using the *Snapshot* function, which you can apply either to a single query or to a complete worksheet:

- If you mark a single cell in a result area before starting the function, the function will return a snapshot of the query's current result. The snapshot always contains the entire result of a query, even if it did not fit into the result area.
- If the currently active Excel cell does not lie within a result area or if there is no active cell, then the function will create a snapshot of the whole of the active worksheet. All formulas in the worksheet cells will be replaced with their current values, so that the new worksheet will not contain the array functions belonging to the OIW queries but only their current values.

In both cases a new workbook is automatically created and the result of the snapshot is stored there.

Editing a Query in the OIW Browser

When a query is being edited, the OIW Browser displays its current definition using two lists:

- The upper right list contains the [Info Objects \[Seite 36\]](#) that are to be displayed in the columns of the query. They are listed in the same order as they appear in the query.

Info objects that contain units (i.e. either units of measurement or currency) can be displayed in two columns: the values on the left and the units on the right. There is a checkbox for each info object that specifies whether an additional column for its units shall appear in the query. This checkbox is inactive for info objects that do not have a unit.

A different checkbox controls the display of the info object. Here you can determine whether its instances shall be represented by their R/3-internal ID or whether the instances' language-dependent short texts shall be used. For example, materials could appear as material numbers or as material descriptions in a query's result. Again, this option is not available for all the objects; so this checkbox may also be inactive.
- The lower right list contains the info objects for which [Selections \[Seite 40\]](#) have been defined. The order of these table entries has no significance. A selection limits the range of values allowed for the result of a query. The values for selections come from the Excel worksheet. When the OIW Browser is active, the cells that will supply selection values for the current query are shown hatched in the Excel worksheet.

You can incorporate new columns into the query by selecting info objects from the [OIW Catalog \[Seite 39\]](#) (viz. [Display of the OIW Catalog in the OIW Browser \[Seite 15\]](#)) and dragging them either into the list of columns or directly into the [Result Area \[Seite 35\]](#) in the Excel worksheet (drag & drop).

You can incorporate new selections into the query by selecting info objects from the catalog and dragging them either into the list of selections or directly into a cell that lies outside (!) the result area in the Excel worksheet (drag & drop). If you drag an info object into the list of selections, a dialog box will appear and you will have to input the position of the selection cell in the worksheet. The result area and all of the selection cells for a query have to be located in the same worksheet.



Each info object can be used only **once** in each query as a selection criterion. There can, however, be several queries dependent on the same selection cell!

The OIW Browser contains pushbuttons for deleting selections and columns from a query and for rearranging columns. These can be found adjacent to the relevant lists in the browser.

Apart from the simple Info Objects, the OIW Catalog also shows the available [Data Sources \[Seite 37\]](#). Thus you can specify a certain data source for the query by double-clicking on it in the catalog display. If you do not decide on a certain data source, the OIW will automatically choose one of the suitable data sources on its own.

Specifying a certain data source can be important because some of the data sources may refer to pre-aggregated, redundant data stores in the R/3 System. These data stores may sometimes be less up-to-date, but allow a much faster read access.

Display of the OIW Catalog in the OIW Browser

The left-hand side of the OIW Browser shows the [Info Objects \[Seite 36\]](#) currently available for selection. The hierarchical arrangement is based on that in the [OIW Catalog \[Seite 39\]](#). The associated [Data Sources \[Seite 37\]](#) in the OIW catalog will implicitly affect the set of info objects which are displayed: An info object appears in the browser only if it can be combined with the info objects already selected for the query. You can combine a given set of info objects with each other only if there is a corresponding data source in the OIW. Therefore the set of selectable info objects shown in the browser may get smaller if you incorporate further columns or [Selections \[Seite 40\]](#) into the query. Similarly, it may grow if you remove columns or selections from the query.

You can use the *Refresh Catalog* pushbutton to instruct the OIW Browser to update its list of info objects from the OIW catalog in the R/3 System. This operation can take quite a long time. For this reason the OIW Browser always stores its current view of the OIW catalog locally on the PC and this is what is displayed the next time that the browser starts. In order to see the true current status of the catalog you have to press the *Refresh Catalog* pushbutton.

A connection to the R/3 System must exist before the OIW Catalog can be updated. If the OIW Frontend for Excel has not already established a connection to R/3, a logon screen will appear when the *Refresh Catalog* pushbutton is pressed (see also [Logging On and Off at the R/3 System \[Seite 19\]](#)).

Creating and Displaying Relationships in Queries

Creating and Displaying Relationships in Queries

If you select a cell in an OIW queries [Result Area \[Seite 35\]](#) and perform the function *Show relationships*, two kinds of relationships will be visualized:

- Blue arrows represent cells which are selection cells for the query (here the Excel standard function *Trace precedents* is used internally)
- Pink arrows imply that a double-click destination cell has been defined for a certain column in the result area (see [Defining Double-click Relations \[Seite 17\]](#)).

To delete all arrows again, please select a cell not contained in any result area and choose *Show relationships* again.

Defining Double-click Relations

By using the function *Define SAP double-click* you can determine a “destination cell” for any column of a result area. Destination cells can not only be placed in the worksheet that contains the result area, but also in other sheets in the same workbook, or even in sheets in other workbooks. When you double-click an arbitrary cell in a result area, a check is made for each cell in the same row of the result area, if a destination cell has been defined for its column. If so, the cell’s value is copied to the destination cell. This mechanism enables you, for example, to combine queries into [Drill-Down \[Seite 34\]](#) scenarios:



Query A returns a list of material texts and their corresponding IDs, whilst query B returns a list of allocations of materials to plants. Query B also contains a selection for the materials for which the plant allocations should be displayed.

The user now defines the selection cell of query B to be the destination cell for the material ID column of query A:

- Select any cell in the material ID column of query A.
- Start the *Define SAP double-click* function.
- Click on the selection cell of query B and then click “OK”.

From now on every time the user double-clicks on a material text in the result area of query A, this material’s ID is copied into the selection cell and query B automatically displays the allocation of this material to plants.

The double-click relationships are only effective while the SAP double-click mode is active. This mode is enabled automatically when the OIW Frontend for Excel is loaded. At the same time, the double-click mode that was active in Excel before is disabled. To return to the former double-click mode, you can use a switch from the OIW-specific part of the Data menu.

Manual and Automatic Query Recalculation

Manual and Automatic Query Recalculation

Since the OIW queries in a worksheet are always updated whenever the Excel worksheet is recalculated, situations will sometimes arise in the OIW Frontend when you need to deactivate the automatic recalculation in Excel temporarily.

It is especially important that you deactivate automatic recalculation when you plan to change several of the selection values for a query. If you do not, then the query will be executed each time that a single value is modified!

You can use the appropriate standard menu options of Excel to activate or deactivate automatic recalculation. However, you may find it more convenient to use the *Autom. calculation on* and *Autom. calculation off* functions that are included on the tool bar of the OIW Frontend for Excel.

You also have the option of manually triggering query recalculation. Excel provides standard short-cut key combinations for doing this. The <F9> key causes all the functions in all open workbooks to be recalculated, whilst the combination <SHIFT+F9> causes only the functions in the current worksheet to be recalculated. You can also update a single OIW query by selecting a cell in the query's [Result Area \[Seite 35\]](#) and then calling the *Re-calculate query* function on the OIW Frontend for Excel tool bar. However, this function will only work if automatic recalculation is turned off.

Logging On and Off at the R/3 System

Both the following situations require a connection between the OIW Frontend for Excel and an R/3 System:

- Queries are to be executed against the SAP Open Information Warehouse, because Excel is recalculating array functions that the OIW Frontend has embedded in the worksheet.
- The OIW Browser's local view of the OIW catalog is to be compared to the R/3 System and updated correspondingly (see also [Display of the OIW Catalog in the OIW Browser \[Seite 15\]](#)).

In both cases the OIW Frontend will automatically start a logon dialog. Here you select the R/3 System to which you want to log on and enter the necessary logon information. The connection which is thus established will be used automatically for all contact with the R/3 System from now on. The connection is maintained until you either exit from Excel or break the connection explicitly by using the *Logoff from R/3* function. You can check your current connection using the *R/3 connection information* function.

The OIW Frontend for Excel can maintain a maximum of only one connection to an R/3 System. If you want to change your connection to another R/3 System, you should simply call the *Logoff from R/3* function. Then as soon as the OIW Frontend for Excel needs an R/3 connection again, it will start a logon dialog and prompt you to specify an R/3 System.

Entering Selection Values for OIW Queries

Entering Selection Values for OIW Queries

You are not restricted to entering single values in selection cells, but you can also specify a set of selection values for [Selections \[Seite 40\]](#):

Enter:	Query refers to:
ABC as selection for material	material ABC
A* as selection for material	all materials that begin with A
1000,1001 for plant	plants 1000 and 1001
100*,2001..2005 for plant	all plants that begin with 100, and also the plants 2001 to 2005
7.94..12.94 for period	July to December 1994
1000.. for sales (in a query on customers)	only the customers whose business was worth \$1000 or more
>1000 for sales (in a query on customers)	only the customers whose business was worth more than \$1000

Please note that for delimiting multiple selections (i.e. instead of the comma in the above examples), Excel's standard list delimiter must be used. This delimiter may depend on the language dependent settings of Windows.



When entering data into selection cells you should keep in mind that Excel automatically converts certain data formats. Leading zeros are normally removed from numeric input. If you want to prevent this happening, you can enter an apostrophe immediately before the numeric data. You would have to enter '0099 in order to refer to the plant 0099, for example.

You should also note that the relationships between selection cells and queries can become extremely complex, especially if there are several queries defined on the same worksheet. For example, it is quite possible for a selection cell to affect several queries simultaneously. In complex situations you should use the *Show relationships* function to examine the various interdependencies (see also [Creating and Displaying Relationships in Queries \[Seite 16\]](#)).

Repairing Outdated Links

When an OIW Query is embedded into a worksheet as an Array Function, this automatically establishes a link between the workbook and the OIW Add-in. If later on someone loads the workbook into Excel without previously loading the add-in, Excel will display a message box asking: "This document contains links. Re-establish links?". If the question is answered "Yes", the next message will be "SAPWarehouseRead ...not defined or too complex." Regardless of the answer, the OIW queries contained in the workbook will not be recalculated.

In the most simple cases, this problem can be solved by subsequently loading the add-in into Excel.

More complicated situations can arise because a link always refers to a specific add-in and because the directory that the add-in was loaded from will be a crucial factor here. Therefore, the messages mentioned above might appear, even if the add-in was actually loaded - but loaded from a different directory than the one referred to in the link. This situation may arise quite frequently, particularly when workbooks containing OIW queries are transferred between computers,.

For this reason, the OIW part of the Data menu contains a special function for cases like this, called *Redirect Links*. If you choose this function, all the OIW queries contained in the active workbook will automatically become linked to the specific OIW Add-in which is currently active in Excel.

Recording a Trace File

Recording a Trace File

Since the OIW Frontend for Excel implements queries for the R/3 System as [Array Functions](#) [\[Seite 33\]](#), the queries embedded in a worksheet will normally be recalculated automatically, i.e. without an explicit command from the user. The trace function helps you to keep track of the time at which a query is run and the parameters used. In addition, the trace file records which R/3 System you connect to or disconnect from, along with the time at which connection / disconnection takes place.

You start or end the recording of a trace file by activating / deactivating the menu entry *Trace* in the OIW part of the Data menu. After having started the recording, you can take a look at the current state of the trace file by choosing *Show trace* from the menu.



The trace file display will not be updated constantly, i.e. you may have to repeat the command *Show trace* from time to time to get an updated view. Please note that the trace file will be cleared when you end recording and then restart recording later on.

What should I do, if ... ?

This section advises you on what to do in certain unexpected situations.

- OIW error message “Cannot create state tables” when loading the OIW Add-in
Some of the [ActiveX Component \[Seite 31\]](#) required by the OIW Frontend for Excel are not correctly installed. Please check this after reading the section on [Installation \[Seite 25\]](#).
- Once the OIW Add-in has been loaded, Microsoft Excel does not respond to double-clicks anymore.
When the OIW Frontend for Excel is loaded, it activates the SAP double-click mode and in this way disables the normal double-click mode of Microsoft Excel. You can return to the previous double-click mode by deactivating the SAP double-click mode manually. The switch to do this can be found in the OIW-specific part of the Data menu.
For more information on the SAP double-click mode, please refer to section [Creating and Displaying Relationships in Queries \[Seite 16\]](#).
- OIW message “Query result did not fit into area ...”
Please read the section on [What Should I Do if the Result Area is too Small? \[Seite 29\]](#).
- Recalculating OIW queries delivers unexpected results or takes unusually long
The section on [Recording a Trace File \[Seite 22\]](#) tells you how to gain a better understanding of the OIW Add-in’s activities. Also, you may analyze your worksheet using the *Show relationships* function (viz. [Creating and Displaying Relationships in Queries \[Seite 16\]](#)).
- Excel error message “This document contains links. Reestablish links?” when loading an Excel workbook containing OIW queries.
Answer “Yes” and see whether the next error message is “SAPWarehouseRead ... not defined or too complex”. If not, then the problem is probably not related to the OIW Frontend. Otherwise please check:
 - first, whether the OIW Add-in has been loaded at all, and
 - then, whether you can solve the problem by choosing *Redirect links* from the Data menu.For a more detailed explanation please refer to the section [Repairing Outdated Links \[Seite 21\]](#).
- OIW error message “Query is inconsistent: ...” when trying to change an existing OIW query
The query’s structure is not valid with respect to the version of the OIW Catalog that is currently used by the OIW Frontend. When the query was defined, a different OIW Catalog must have been active. It might be possible to solve the problem by updating the local OIW Catalog from R/3 using the pushbutton *Refresh Catalog*.
Please note that the OIW Catalog can be filled quite differently in different R/3 Systems, and that a query can only be successfully run against a certain R/3 System if it is consistent with respect to this system’s OIW Catalog.

What should I do, if ... ?

Installation

[Installation Procedure \[Seite 26\]](#)

[Installation trouble-shooting \[Seite 27\]](#)

[Files needed \[Seite 28\]](#)

Installation Procedure

Installation Procedure

To run the OIW Frontend for Excel, you need Microsoft Excel, Version 7 (aka. Microsoft Excel for Win95) or higher. Any Windows version that can host this version of Excel (Win95 or NT 3.51) will be sufficient.

Please refer to the [Files needed \[Seite 28\]](#) section for a complete list of files that you will need to run the OIW Frontend for Excel. All these files are contained on any SAP Presentation CD as of Release 3.0D. They can be found in sub-directories RFCSDK\OCX and OIW, resp., of directory WIN32\SAPGUI.



When installing from the SAP Presentation CD using the SAPsetup utility, please note that the OIW Frontend for Excel is not included in the standard installation. You therefore need to choose the "Custom" button on SAPsetup's welcome dialog to install it.

A dialog box appears where you can choose several add-on components to install along with SAPGUI. Depending on the version of the presentation CD, you will either have to choose the component "Open Information Warehouse", or, if this is not available, "Desktop Development Kit". Please note that you can select multiple components for installation, and SAPGUI is selected by default - if you are only interested in the OIW Frontend, you might want to check that all the other components are unselected.

Also, you should click on the checkbox for a local installation. Here, you need to specify a local installation directory.

Finally, make sure that you do not run the installation while a SAPGUI session is still active. Preferably, you should perform the installation immediately after logging on to Windows, even before you connect to R/3 via SAPGUI for the first time.

If you proceed in this way, SAPsetup will:

- copy VRFC32.DLL, LIBRFC32.DLL, the two VTSS*.DLLs, and the necessary (Microsoft) system DLLs to your WINDOWS\SYSTEM directory (or WINDOWS\SYSTEM32 in case you have Windows NT)
- copy all the other necessary files to directories underneath the one you specified
- register OLEPRO32.DLL, MFC40.DLL, and all the [ActiveX components \[Seite 31\]](#) mentioned in [Files needed \[Seite 28\]](#).

You should now be able to load the add-in into Excel and start working. For the sake of convenience, you might want to use the Add-in Manager to automatically load the add-in every time you start Excel.

A typical error when loading the add-in would be "Cannot create state tables". This indicates that (at least) the Table Generator component is not operational.

If you have reason to believe that something went wrong with the automatic installation, or you cannot use SAPsetup for some reason, you might want to check and/or complete the installation manually. You can find some hints on how to proceed in this case in the [Installation troubleshooting \[Seite 27\]](#) section.

Installation trouble-shooting

There is a note on installing the OIW Frontend for Excel in SAP's Online Software Service (OSS). Please refer to that note (#49562) for an updated list of file sizes and dates for the files belonging to the OIW Frontend as found on the various Presentation CDs (viz. [Files needed \[Seite 28\]](#))

In the case of the DLLs, it is often a good idea to scan your hard-disk and find out whether there are several versions of VRFC32.DLL and LIBRFC32.DLL on your PC. If so, you should delete older versions to make sure that all the programs use the latest version. We recommend that you store these versions in your WINDOWS\SYSTEM directory (WINDOWS\SYSTEM32 under NT).

For the [ActiveX Component \[Seite 31\]](#), it is immaterial as to where they are stored on the PC, because every program can locate them via the registry database. To scan (and edit) the registry database, you can use REGEDIT.EXE (or REGEDT32.EXE on NT). This allows you to find out if the components are actually registered on your PC and also which one of several versions that might be stored on your PC is actually used. If a component is actually registered, you should check the registered value for "InprocServer32". This should be the full path name to the control's latest version on your PC. To find the ActiveX components in the registry database, it is safest to use their class IDs as search keys:

Control name	Class ID
SAP Table Generator	{87D2850E-6B43-101C-92CE-10005AF5DF4D}
SAP Table View	{AC957AC5-A491-11CE-A69B-0000E8A490E7}
SAP Tree View	{37E8A905-12DA-11CF-8F57-0000E8A490E7}
SAP Logon	{B24944D6-1501-11CF-8981-0000E8A49FA0}
SAP OIW Browser	{3BF88363-57CF-11CF-A30D-0000E8A490E7}

SAPsetup will try to register all the OCXs, but if anything should go wrong, e.g. a wrong version of VRFC32.DLL is encountered etc., then SAPsetup will **not** report any errors! In this case, it will be necessary to manually register OLEPRO32.DLL, MFC40.DLL, and the OCXs. This can, for example, be done using the tool REGSVR32.EXE distributed by Microsoft in many of their SDKs. You just have to run the command REGSVR32 MYCOMP.OCX to register the ActiveX component MYCOMP. REGSVR32 should answer with a message box saying "DLL register MYCOMP.OCX succeeded". If REGSVR32.EXE fails to register any of the OCXs, check carefully whether the DLLs that this OCX depends on (see [Files needed \[Seite 28\]](#)) are all available in WINDOWS\SYSTEM (or \SYSTEM32, resp.).

If you do not have a working version of REGSVR32.EXE, the OSS note mentioned above will tell you where to find one.

Files needed

Files needed

The OIW Frontend for Excel consists of:

- the Excel add-in SAPOIW.XLA
- the ActiveX component WDLOIW.OCX (i.e. the SAP OIW Browser control)

Both parts make use of several other [ActiveX Component \[Seite 31\]](#):

- the SAP Table Generator control WDTAOCX.OCX
- the SAP Table View control WDTVOCX.OCX
- the SAP Tree View control WDTTREE.OCX
- the SAP Logon control WDTLOG.OCX

Both parts of the OIW frontend, as well as the Table Generator and the Logon control require:

- the dynamic-link library VRFC32.DLL, which in turn requires
- the dynamic-link library LIBRFC32.DLL.

Furthermore, the Table View control requires:

- the dynamic-link libraries VTSSDL32.DLL and VTSSM32.DLL

The OIW Browser control requires the (Microsoft) system DLLs:

- URLMON.DLL
- WININET.DLL

Generally, to register OCXs which are based on the Microsoft Foundation Classes, the following (Microsoft) system DLLs are needed on the PC:

- MSVCRT40.DLL (as of 3.1G, MSVCRT.DLL and MSVCIRT.DLL are required instead)
- MFC40.DLL (as of 3.1G, MFC42.DLL is required instead)
- OLEPRO32.DLL

It is highly probable that these DLLs are present on your PC anyway. If they are not, they will be created along with any SAPGUI component's installation via SAPsetup.

What Should I Do if the Result Area is too Small?

Since [Array Functions \[Seite 33\]](#) are always associated with a fixed size [Result Area \[Seite 35\]](#), it is possible that the R/3 System could return more data than will fit in the result area. If this happens then only part of the query result can be displayed. There are three different ways of approaching this problem:

- Try to reduce the size of the query result, either by including more [Selections \[Seite 40\]](#) in the query or by further restricting the sets of valid selection values for the existing selections.

See also [Defining and Changing Queries \[Seite 11\]](#) and [Entering Selection Values for OIW Queries \[Seite 20\]](#).

- Increase the size of the result area with the *Adjust result area* function.
See also [Defining and Changing Queries \[Seite 11\]](#).
- Use the *Snapshot* function to retrieve the **complete** result of the query and to store it in a new worksheet.

See also [Storing Query Results Permanently \[Seite 13\]](#).

Glossary

Glossary

This section contains explanations and definitions of terminology specific to OIW and Excel:

[ActiveX Component \[Seite 31\]](#)

[Add-in \[Seite 32\]](#)

[Array Functions \[Seite 33\]](#)

[Data Sources \[Seite 37\]](#)

[Drill-Down \[Seite 34\]](#)

[Info Objects \[Seite 36\]](#)

[OIW Browser \[Seite 38\]](#)

[OIW Catalog \[Seite 39\]](#)

[Result Area \[Seite 35\]](#)

[Selections \[Seite 40\]](#)

ActiveX Component

An encapsulated program component, which can be used by others programs, the so-called ActiveX containers. Containers will communicate with a component via OLE ("object linking & embedding")



This term is standard Microsoft Windows terminology.

Add-in**Add-in**

A program that extends the functionality of Microsoft Excel. Add-ins are so well integrated into Microsoft Excel that it makes practically no difference to the user whether a function has been implemented as a standard Excel feature or as an add-in. An Excel user can install an add-in using the add-in manager. The add-in will then always be started whenever Excel is started.



This term is standard Microsoft Excel terminology.

Array Functions

Functions that return values for a range (or “array”) of cells in an Excel worksheet. Other functions affect the value of a single cell only.



This term is standard Microsoft Excel terminology.

Drill-Down**Drill-Down**

A drill-down is where certain values are selected from the result of one query and are used as the selection values for another query. This technique is called drill-down because it can be used to produce a second query containing a detailed view of data that was summarized in the first query.

Result Area

When a query is defined with the OIW Frontend for Excel, it is automatically linked to a fixed range of cells in the worksheet as an array function. This range of cells is called the result area of the query, because this is where results supplied by the R/3 System are displayed.

Info Objects

Info Objects

Units of information in the Open Information Warehouse catalog, e.g. material, plant, customer, etc..

Data Sources

Sets of info objects in the Open Information Warehouse catalog that can be used in combination in queries. A query on the OIW is valid only if there is at least one data source in the OIW that combines all of the info objects occurring in the query. Like the info objects, each data source is recorded in the catalog of the OIW.

OIW Browser**OIW Browser**

A standard dialog in the OIW Frontend for Excel that allows queries to be defined and modified. The OIW browser shows all of the info objects that are currently available in the Open Information Warehouse. It also allows the current definition of each of the queries to be viewed. Info objects can be copied from the OIW browser into a query using drag and drop.

OIW Catalog

The OIW Catalog stores all the metadata which is known to the OIW, and thus defines which queries the OIW can answer at all. Basically, the OIW Catalog contains three tables:

- the list of [Info Objects \[Seite 36\]](#)
- the list of [Data Sources \[Seite 37\]](#)
- the list of relations: “Data source x contains info object y”

Selections

Selections

A selection represents a restriction on the result set of a OIW query. In the OIW Frontend for Excel the values for the selections are obtained from the specified selection cells when a query is called. If the “automatic calculation” mode is active in Excel, then every time that a value in a selection cell is changed all queries that depend on this cell are re-calculated.