



Valid from Allevo 4.2

Enter SAP plan data conveniently via Excel

In the "traditional" Allevo application, a transaction is called in the SAP system and the Allevo master is opened via the Excel planning interface. This complete integration of Excel into SAP ERP is referred to as "Inplace" mode (see detailed documentation in the "Allevo & SAP" manual).

Alternatively, the Allevo Master can also be called up outside of SAP, whereby the same planning functions are available as when working within the SAP GUI. The necessary connection to the SAP system is provided by an Excel add-in. This is used, for example, to read the required reference data or to save plan data in SAP. On the Excel side, these functions can be found under the "SAP" icon in the "Navigation" menu ribbon.

All program functions required for this mode of operation are summarized under the term "Allevo Business Client" (ABC). The ABC is installed as an independent application on the planner's Windows workstation.

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1 Launch the Allevo Business Client (ABC)

1.1 Execution variants

Two variants are available for calling up the Allevo master in ABC:

(A) Starting the ABC via the Panel

In this case, a preceding program controls the call of the master; it is called up as usual via the Windows start menu or via the desktop icon on the user's workstation. A selection window (the "Allevo Panel") appears with all the selection options required for working with an Allevo master (e.g. information about the layout and the object data).

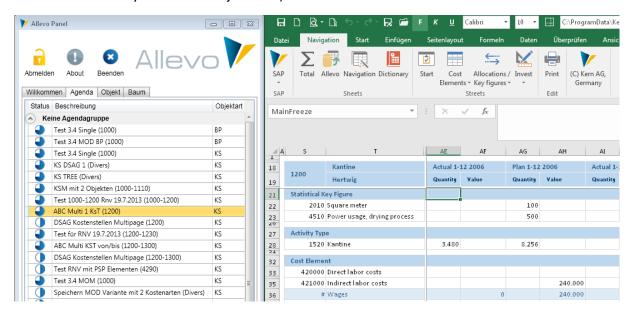


Figure 1.1: ABC with the panel for starting the Allevo-Master

The Panel thus takes over the same functionalities as the usual Allevo planning transactions in the SAP system but also, for example, the logon to the SAP system. In the Panel, the planner sees all the layouts set up for Allevo and, if applicable, also his entries in the agenda: Excel is started and opens the selected master. The add-in stored there then takes over the further data exchange with the SAP system.

Advantages of the variant: extended Allevo functions are available here, such as access to the agenda. The overview is therefore maintained even if the planning process requires the use of several different Allevo masters.

(B) Starting ABC in the document mode

Alternatively, Allevo-Master can also be started directly like any other Excel file, e.g. by double-clicking or via a link in a portal. Logging on to the SAP system is done via the "SAP" icon in the "Navigation" menu ribbon. Below, this ABC variant is referred to as "document mode".

Advantage of the variant: Easy access if, for example, only one central Allevo master is in use. The planner can switch between objects as desired without leaving the master that has already been called up (if necessary, also switch to another layout or another object type). This mode can also be used to upload plan data that was entered offline to SAP.

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Integration

The ABC uses the same Excel master as in SAP-Inplace mode. In principle, even parallel operation is possible; but for organizational reasons, this is unlikely to be practical.

Even for ABC, logging on to the SAP system is always user-specific: so all SAP authorizations and consistency checks are adhered to.

ABC is primarily intended as an alternative mode for entering CO plan data; i.e. for the planner's workstation. The customizing associated with Allevo (definition of layouts, constants...) continues to be carried out via the familiar Allevo transactions on the SAP side.

1.2 Prerequisites for the installation

The ABC supports the current workstation installations of MS-Excel in the versions 2007 to 2016 as 32 and 64 bit version (for Excel 2007 however only in the ABC document mode).

To use an Allevo master in ABC mode, an ABC kit must be stored in the master, consisting of a VBA module (basKitABC) and two VBA forms (frmKitABC...). From Allevo 3.5, this kit is optional, i.e. it is not included in the standard delivery master.

Data exchange with the SAP system takes place via an RFC connection independently of the SAP GUI. In doing so, ABC uses functions provided via the "SAP .NET Connector 3.0" (included in the ABC installation package).

The Connector in turn uses the ". Net Framework 4.0 Extended Version", which must therefore be installed on the user's PC: this condition is fulfilled on all computers with Windows 7 or newer; for older Windows systems, the framework can be installed subsequently (the associated files are available as a free download in the Microsoft Support).

The NET Connector 3.0 does not use any functions of the SAP GUI; their installation or version is therefore not relevant. The ABC itself uses XLL add-ins based on "Excel DNA"; thus the installation of VSTO and PIAs is not required either (the relevant files are included in the delivery package).

Via the functions of the SAP .NET Connector, the ABC supports common solutions for "Single Sign-On" (SSO). As a prerequisite for SSO, the use of Secure Network Communications (SNC) technologies is required, such as SAP NetWeaver Single Sign-On based on SECUDE technology (based on Kerberos or NT LAN Manager /NTLM authentication). If required, please contact our support to set the necessary configuration parameters.

For access to the SAP ERP system, corresponding RFC authorizations must be stored (see section 3.7).

1.3 Differences when calling via ABC and SAP Inplace

Both procedures use the same Allevo master. However, there may be small deviations in the execution order of VBA macros.

Both versions can represent the object hierarchy as a Tree: here, there are mainly differences in operation, which are due to the technology used. The ABC Tree also provides additional functions, such as calling MOD from a branch in the Tree.

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2 Application of the Allevo Business Client

2.1 Overview and special features

The ABC can be called up via Panel or directly via the Allevo Master: depending on this, some supplementary information is required in Customizing (see sections on Customizing at the end of this documentation).

Differences to the Inplace mode result mainly from technological differences: for example, the line item list in ABC is completely mapped on the Excel page. This means, of course, that there is no branching to the SAP source documents available, which is done in the Inplace mode by calling the corresponding SAP transactions. In the ABC line item list, however, the same columns are available for selection as with Inplace: the relevant columns can be saved there in an ALV variant; with ABC, the non-relevant columns can be hidden via suitable entries in Customizing.

The ABC was developed in such a way that it is available as a planning interface independent of the respective system environment: whereby the built-in Excel functions require a Windows interface, of course.

Some basic operating functions:

- following equivalent SAP functions, a selection help is called via function key F4 (e.g. for calling a list of objects like cost centers)
- The selection of several entries (multiple selection) is done with the help of Ctrl or Shift key, as usual under Windows.
- Selected entries are transferred to the relevant input field separated by semicolons.
- Searching in input fields is supported by the wildcards '*' and '?'.

However, calling the ABC can be done in two ways:

- Start as an independent application from the Windows workstation of the planner (e.g. via the desktop icon). Initially, a selection window (Panel) appears, which offers all control functions for convenient access to the Allevo planning masters stored in the SAP system.
- Depending on the system environment (e.g. in Portal), it can also be advantageous to integrate
 the Allevo Master like other Excel files or templates and then start it directly via the file (if necessary, also simply by double-clicking). This "document mode" also takes into account the special
 case of offline planning: when the planning file already contains data for one or more planning
 objects that are only to be transferred to SAP later.

Depending on the ABC mode (with Panel or document mode), the operating functions differ slightly, as described in the following two sections.

After logging on to the SAP system, the "About" popup shows the currently installed program version of ABC and the Allevo modules in the SAP system. The ABC log file (execution log) and the display of the program and server configuration files can also be accessed from here.

2.2 Language and translations

The ABC is delivered in English and German. The integrated dictionary functions are available in the Allevo-Master.

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Optionally, this dictionary can also be used for labeling ABC-specific icons in the navigation (labels). Here is an example for reading reference data:



Of course, the translation becomes active only when the master is loaded.

The language in the SAP logon dialog of the ABC can be defined in the SapServerCustomizing.xml for all specified servers. The dialog initially appears in the language of the first entry in the XML file. When the language is selected, the texts in the logon dialog are adapted immediately.

The texts of the selection buttons (e.g. for "Read reference data") are based on the button constants stored in SAP.

The WelcomeText appears in the language of the application, as far as the text is stored there language-dependent.

2.3 Logging on to the SAP system

The ABC provides a central function for logging on to the SAP system via the "Log on / Log off" icon. Depending on the start mode, the icon can be found either in the Panel or via an additional "SAP" icon in the "Navigation" ribbon.

In the second case, the following login dialog appears:



Figure 2.1: Logging on to the SAP system

All SAP systems that are defined in Customizing are available for selection:

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- Depending on the start mode, the information have to be stored in the Customizing sheet of the Allevo master (document mode),
- Or alternatively in the ABC configuration files (see notes on customizing further down in the manual).

Without explicit specifications, all SAP systems from the SAP Logon are offered for selection (in the Panel version, the ABC configuration file delivered is also designed for this, see notes in chapter 4).

Since usually only individual SAP systems are relevant for working with Allevo, it is recommended to store a limited selection in the Customizing of ABC.

The logon to the SAP system is always user-specific with SAP user name and password. All SAP authorizations are therefore complied with.

The list of stored languages is also stored in ABC Customizing. The language of the current Windows logon is suggested. The entry has several functions:

- The selected language is transferred to the SAP system and thus defines, for example, in which language texts are read.
- The specification also controls the further text display on the ABC interface (e.g. in the login dialog itself): texts for the languages English and German are stored there, with restrictions also for French. For other languages, the ABC interface automatically switches to English texts.
- In ABC Customizing, the language can additionally be entered with an indication of the region.
 The specification can be helpful to perform automatic conversions before data is transferred to
 SAP (e.g. if numbers are to be written into a field that is defined as a general text field in the satellite).

2.4 Calling functions of the SAP interface

When working with ABC, the "SAP" icon is displayed on the Excel side in the "Navigation" ribbon, which provides all functions for data exchange with the SAP system.

Notice: In previous versions of ABC, there was a separate "Allevo" menu band for calling SAP interface functions. Now they are sub-items of the navigation: this eliminates the need to switch between two different menu bands.

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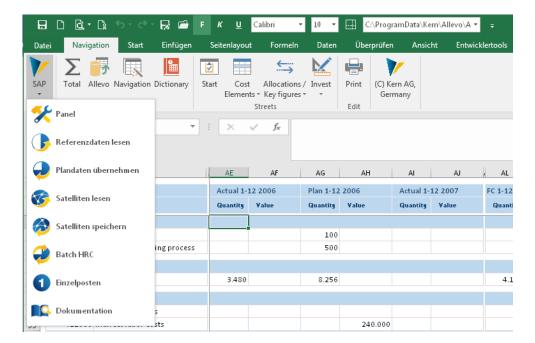


Figure 2.2: Calling functions of the SAP interface via the "Navigation" menu ribbon

The functions offered are the same as those provided in the Inplace mode via the SAP interface; they are described in detail in the Allevo SAP manual. Which functions are offered depends on the respective use case and is controlled via the corresponding constants on the SAP side (the button texts are also taken from there).

In addition, here are some special features that result primarily from technological differences:

- The line item list of ABC is completely mapped on the Excel page. This means, of course, that no branching to SAP source documents is available, as it is possible in the Inplace mode by calling the corresponding SAP transactions. Basically, the same information/columns are available as in the Inplace mode: the relevant columns can be shown or hidden via appropriate entries in Customizing (see related notes in section 4.5 section below).
- Via Icon to "Save as", the current master with the reference data already read is saved as an Allevo-specific offline file. This function is also executed when the user calls up the Excel standard functions for saving: the stored original Excel function is thus redirected. By selecting different objects, any number of offline files can be created in succession.
- A PDF file can also be created in the Inplace mode via "Save as". This function is currently not available in ABC.
- The import of offline files can currently only be done via the document mode of ABC (double click on the corresponding file and repeat login from there).
- Customer-specific ABAP functions can be integrated into the Allevo planning interface via the
 constants BUTTON_CUST1 and BUTTON_CUST1. These functions can also be used in the ABC via
 an entry in the Customizing of the Allevo master (see figure below, "Navigation" table, assign
 suitable icon if necessary). When calling the ABAP functions via the ABC, however, there are restrictions that are described in the constant documentation (e.g. no screen Pop-up functions).

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She	etName	Caller	lcon	MacroName	Caption
Alle	vo	Main01		CallCustom1	Label

2.5 Start ABC via the Panel

In this mode, an independent application is started on the Windows workstation of the planner (e.g. via desktop icon, program "AllevoPanel.exe"). The Panel offers various functions for convenient access to the planning layouts stored in the SAP system and for selecting the desired objects (such as cost centers).

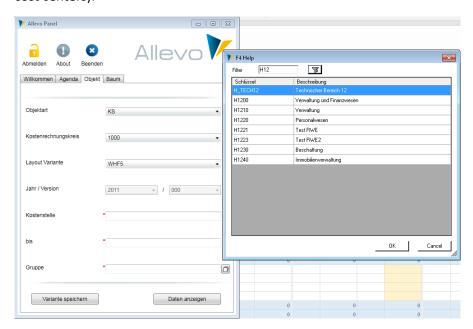


Figure 2.3: ABC Panel with object selection and F4 value help for group

The "Logon/Logoff" icon is used to log on to the SAP system as described above.

Some functions in the Panel require ABC-specific customizing, which is described below. But first, here is an overview of the most important functions:

- The "Welcome" tab in the Panel displays an HTML text via which the user, for example, can receive an introduction to planning with Allevo. The text is customer-specific, so it can also refer to the planning content and not just to Allevo functions.
- Agenda" contains the user-specific entries that are stored with the Allevo function of the same name on the SAP side (see detailed documentation in the Allevo SAP manual). The use of the agenda is particularly recommended for recurring planning tasks.

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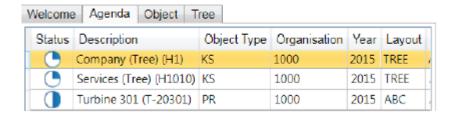


Figure 2.4: Agenda with ABC Panel

An agenda entry usually contains all the information needed to edit planning objects directly: double-clicking on one of the lines starts Excel directly and loads the Allevo master with the stored objects. Alternatively, the agenda can contain text items that can be used, for example, to describe tasks outside of Allevo: Tasks can be completed directly via the context menu (if necessary, all deposited objects receive the status "04").

• The entries on the "Object" tab correspond to the selection characteristics that are also available in the usual Inplace planning transactions. For more details see section 2.7 below.

The "Show data" button on this tab starts Excel and loads the Allevo Master with the stored objects. If the Tree display for objects is active in the selected layout, the Panel automatically switches to the last tab.

• The "Tree" tab of the Panel enables the selection of objects with the help of a stored hierarchy. It results e.g. from a group that was previously entered on tab "Object" (for details see section 2.9 below).

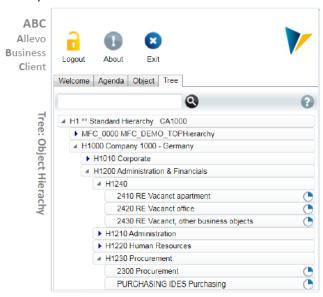


Figure 2.5: Tree with ABC Panel

- When a new object is called up (e.g. planning a cost center), ABC checks whether Excel has already been started with the required Allevo master: if necessary, only the data in this master is reset. This normally leads to an acceleration. In exceptional cases, however, it may make sense to reload the master with every object change (see System parameters).
- The panel is closed via the "Exit" icon. At the same time the ABC closes the last opened master. If this master is the last open Excel folder, Excel itself is also closed.

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Regardless of which of the described ways layout and object were selected in the Panel: ABC loads the associated Allevo master from the SAP BDS or via a file path, as it is stored in the layout on the SAP side (see associated constants BDS_ENABLED or FILE_ENABLED). This means that exactly the same Allevo master is used as for the SAP Inplace application (no further settings are required in the master, only the version of the VBA code stored there must match the ABC version).

On the Excel side, the "SAP" icon is then available in the "Navigation" ribbon to call up functions for data exchange with SAP (see notes above). The Panel can be brought back to the foreground at any time via the icon of the same name, e.g. to select another planning task.

The Panel is called up with the same language as when logging in for Windows. EN English, DE German and FR French are currently supported. In the case of French, it should be noted that the Allevo master and the ABAP part are only supplied in English and German by default; it may therefore be the case that messages appear in a different language, for example.

Notice:

Due to technical limitations in Excel version 2007, the Panel cannot be used in this version at the moment. Please check an update to a newer Excel version or call the ABC in document mode.

2.6 Start ABC in the document mode

In this case, the Allevo master is started via the Excel file itself (e.g. simply by double-clicking). Advantage: the master can be integrated into the existing system environment in the same way as other Excel files or templates. All functions for connecting to the SAP system can be accessed via the "SAP" icon in the "Navigation" ribbon.

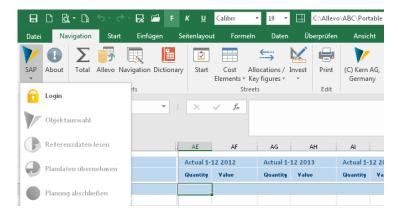


Figure 2.6: Login via "SAP" icon when starting in document mode

Important: Responsible for the display of the "SAP" icon is an add-in that is automatically loaded when the master is started. The requirements for this are described in section 3.4 and 4.2.2 (e.g. information on ABC parameters on the customizing sheet in the master).

The function list contains additional elements compared to the call via the Panel:

"Login / Logout":

Here the registration at the SAP system is done as described above.

Object selection

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The entry "Object selection" can only be selected after successful login: for the functions, see the description in the next section. 2.7.

A special feature here is the specification of the layout: the entries are first searched for in the Customizing of the current master. Without these entries, the ABC shows all layouts stored in the SAP system (in normal cases, control via the Customizing in the master is therefore preferable).

Notice:

In a way, the usual logic for calling up the Allevo planning interface has been reversed here: instead of accessing the Allevo master coming from the layout, the master itself is now the controlling element.

Consequently, the information for which layout it is intended should also be available via the master. The information is stored in the customizing sheet (see section 4.2.3).

"Treeview" icon

This icon appears only if the OBJ_SEL_IN_PANEL constant is active in the selected layout. Then the objects can be selected via the hierarchical display in the tree (see section 2.9 below).

"Save under" icon

The current master is saved with the read reference data as an Allevo-specific offline file (see section 2.11).

Headstart specific functions

Two constants are of particular importance if the Headstart add-on module is integrated (can only be used in document mode):

- With BUTTON_HRC_BATCH the ABC can also process plan data for several objects at the same time: all selected objects are run through one after the other, the reference data is read and then saved again (e.g. applicable for the automatic calculation of surcharges). For details on the control, see F1 documentation for the constant.
- The constant BUTTON_HRC_SAVE allows to save only the data of the Headstart additional module (i.e. without the plan data of the Allevo main planning).

All other functions correspond to the usual Allevo navigation.

Notice:

Regarding the file format of the Allevo master, please note:

When starting in document mode, the Allevo Master should also be available as a normal Excel file (i.e. format XLSM) and not as an Excel template (format XLTM). This rule primarily has technical advantages (e.g. for finding ABC add-in) and also applies in particular when working with offline files that already contain SAP reference data.

This XLSM file to the Allevo master should always be write-protected to prevent accidental overwriting by a user.

Multiple Allevo masters in parallel

Basically, ABC is intended for working with one Allevo master (and thus also a logon to the SAP system). If a second master is opened by double-clicking, the message "Working with multiple Allevo master files in one Excel instance is not supported" appears.

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In special cases, however, calling multiple masters in parallel may seem useful (like multiple modes in SAP). The document mode supports this function: in the link to the Excel template only the path to the program Excel.exe has to be entered additionally (for further details please contact the Kern support).

2.7 Object selection

The ABC provides a central function for selecting the relevant planning objects (i.e. cost center, order...). The call is different, depending on the ABC start mode:

- In the ABC Panel, the object selection is implemented as a tab.
- In document mode, the call is made via the "SAP" icon in the "Navigation" menu ribbon.

The following figure shows an example of the object selection Pop-up.

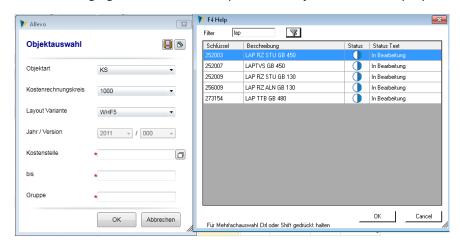


Figure 2.7: ABC object selection and F4 value help (document mode)

The selection lists for object type, controlling area and, if applicable, company codes are taken directly from the specific ABC customizing in the master: these specifications thus determine for which organizational units the respective Allevo master is to be used.

The year / version information is usually taken from the planning layout settings. The fields are only ready for input if the constants for flexible version entry are set in the layout.

The object-specific selection features correspond to those that are also available in the usual Inplace planning transactions of Allevo. Which input fields are available depends on the selected layout; in particular the "ABC mode" in the master data for the layout. In MultiPage mode, for example, all fields are available (see also section 2.10). All fields are also available if the Tree is also active in the background for the final object selection (see section 2.9).

All fields have a F4 value help as known from the SAP system (see figure above with list for cost centers). Properties:

- Within the PopUp a full text search is stored, whereby execution of the search must be pushed manually.
- Mouse click on a header line changes the sorting.
- Multiple selections are possible using the usual Windows functions; they are transferred to the actual input field separated by semicolons

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The Pop-up for selecting objects shows only those objects that have a valid Allevo planning status on the SAP side. Multiple selections are possible there and are transferred to the actual input field separated by semicolons.

After confirming the selection with "OK" or double-clicking on a line, the selected object is transferred to the Excel interface. Normally, the reference data is also read from SAP afterwards. Exception: in the layout constant OBJ_SEL_IN_PANEL is set; then the tree for the further object selection is called automatically.

2.8 Call via agenda / variant

The variants of the different Allevo planning transactions can be displayed in a comprehensive list for each user. This list of these planning tasks is called an "agenda" in Allevo and simplifies object selection for the user. A distinction must also be made again according to the type of call:

- When starting via Panel, all previously created agenda entries are available for selection (see Figure 2.4: Agenda with ABC Panel). Double-click on a line to start Excel with the stored Allevo Master.
- In the document version, the Allevo master is the controlling element. The layouts for which a master is to be used are usually stored there. Accordingly, only the agenda entries stored for these layouts are offered for selection (see Figure 2.7 with icon for calling up the variant in the screen pop for object selection).

The ABC additionally allows to save a current object selection for further call as a variant (see icon in Figure 2.7 or button "Save variant" when called via Panel, see Figure 2.3).

Agenda entries can be deleted again via the context menu.

2.9 Tree with object selection via hierarchy

The ABC offers a central function for the selection of planning objects (i.e. cost center, order...) via the stored hierarchy. As a prerequisite, the constant OBJ_SEL_IN_PANEL must be active in the layout: only then can a group or a list of objects be specified in the "Object selection" dialog.

The call is different depending on the ABC start mode:

- In the ABC Panel, the Tree is implemented as a tab.
- In document mode, the call is made via the "SAP" icon in the "Navigation" menu ribbon (see "Tree" icon).

The following figure shows an example of the corresponding popup in document mode.

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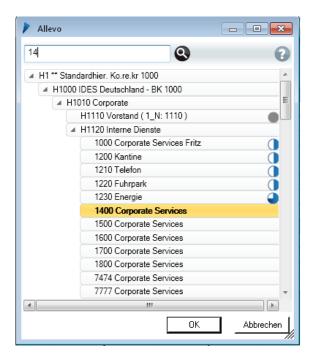


Figure 2.8: ABC tree for object selection (here cost centers)

As soon as status information is available, the "progress" is displayed symbolically via a circle graphic. The search function considers object abbreviations as well as descriptions. Double-clicking on a line opens the respective object or a subordinate group.

After confirming the selection with "OK", the selected object is transferred to the Excel interface. Normally, the reference data is then also read from SAP. When a group is selected, Allevo automatically switches to reporting mode (the "Transfer plan data" button is not available there).

Notice: With Allevo-Inplace, the same tree display is offered via a macro as a screen Pop-up. For further details of the control, see the notes in the Allevo SAP manual.

2.10 Differentiation execution as single, MultiPage and MultiObject

In the Allevo Inplace application, the start transaction determines whether work is to be performed in Single, MultiPage and MultiObject. There, for example, a master can also be set up to be called up as a single and MultiPage at the same time (see corresponding flags in the Allevo settings for the layout).

When calling via the ABC, a distinction via transaction codes is no longer possible. Therefore, it must always be clearly defined in the layout settings how the call is to be made. So only one switch may be active, e.g. for MultiPage application: as a result, all input fields (object from / to with multiple selection and group) also always appear in the ABC object selection Pop-up.

From version 3.4, this mode is set via an explicit feature column "ABC Mode" in the master data for the layout. Only if there is no entry there, ABC searches for a suitable mode in the standard columns:

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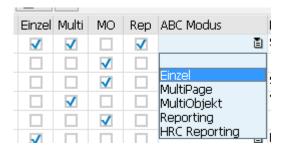


Figure 2.9: ABC relevant characteristics for layout master data

The ABC also supports the reporting functions of a layout: in this case, the "Accept plan data" button is not active. For the functions in "HRC Reporting, see the manual for Allevo Headstart.

2.11 Edit data offline

Even when working with ABC, an Allevo planning file can be saved locally (see "Save as" icon under "SAP" icon). This enables offline planning based on the reference data already read, i.e. without a connection to the SAP system.

When saving, Allevo remembers which object the data applies to in the respective Excel file (or several objects in MultiPage mode). Reading reference data and transferring plan data is then only possible for this object; other objects can no longer be addressed via this offline file (the icon for object selection is therefore no longer available after SAP logon).

Notice:

In principle, you could also create offline files for each planning object in this way and then continue working with these files again and again.

- Advantage: specific secondary calculations could also be stored here, which are then available again during the next planning run.
- Disadvantage: these files always remain on the same status; innovations like changes in the structure or in the macros are not taken over.

Therefore, at least at the beginning of each planning round, all offline files should be regenerated.

To finally transfer the values planned offline to SAP, a connection to the SAP system must be established again (see last section). Allevo automatically recognizes that data is already available in the Excel workbook and transfers the associated information for the object directly to the object selection after prompting.

Notice:

If the master has been signed for macro security reasons, the ABC automatically applies the signature to the saved Excel file. No further settings are required for this.

2.12 ABC version and Logfile

Information on the individual Allevo modules can be accessed via the "About" Allevo icon.

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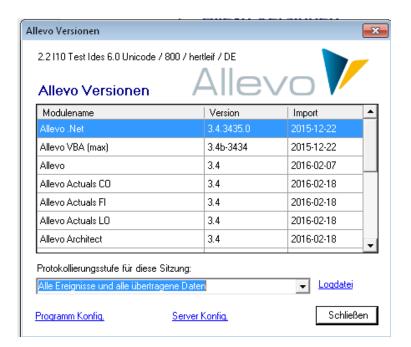


Figure 2.10: Allevo versions and protocol file

The "Program Config" and "Server Config" shortcuts enable the associated configuration files for ABC Start to be called up via Panel. The contents are described in section **Error! Reference source not found.**.

The ABC can create a log in which the most important program activities are recorded, e.g. for error messages or log for data exchange with the SAP system (the last option corresponds to functions such as TAB2EXCEL or constant TEST in the Allevo-Inplace variant).

The log file is created user-specifically in the directory "%PROGRAMDATA%\Kern\Allevo". The easiest way to display the log is to call it via "Logfile" in the "About" dialog.

The log is created automatically if the associated "LogLevel" control parameter is set in the "Allevo.config" configuration file (see section 4.4 or reference "Program Config" in the "About" dialog). This LogLevel is read when ABC is called up and can be temporarily adjusted in the dialog (e.g. for the short-term analysis of error situations):



Figure 2.11: Allevo versions and protocol file

The following levels are available for selection (the number mentioned corresponds to the entry in the "Allevo.config" file):

- O No logging (the log is completely switched off)
- Only error messages (recording of startup environment and error situations).
- 2 Main events

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- 3 All events and transferred data (i.e. complete data exchange with SAP)
- 4 All events and all transferred data (very many details about data exchange with SAP).

The default entry in the delivery version of "Allevo.config" is "1", i.e. logging of processes at startup and of error situations. Changes to the logging level are normally only required if requested by our support.

Notice:

The log file is filled continuously, i.e. not only when Allevo is completed. The higher the logging level, the larger the file created, i.e. more data is written. A high logging level can therefore lead to a loss of performance when writing over very slow network connections.

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3 Installation Allevo Business Client

The Allevo Business Client consists of a main program for calling the Panel and an Excel add-in that enables data exchange between Excel and SAP, for example.

Notice:

The Excel add-in is only loaded together with an Allevo master: it does not affect any other Excel applications.

The associated files are available in two installation variants:

- (1) The MSI setup automatically checks the system requirements, copies all the necessary program files and makes all the required settings. A public certificate is installed in case an Allevo master with signature is to be used.
- (2) A portable version is intended for smaller installations or even workshops: it contains all program files in a common subdirectory. The content is simply copied to the desired directory on the target system.

In the target directory of the installation, the Panel can be called up immediately in both cases via the "AllevoPanel.exe" program; in variant (1) additionally via a desktop icon or entry in the Windows Start menu. All other program files are also searched for in the target directory of the installation.

In other use cases (e.g. for offline planning or when starting by double-clicking on the Allevo master), the path with Allevo program files must be known in order to automatically load the Excel add-in with the ABC functions from there. To do this, Allevo uses a defined finding logic, which is described below. Here are just two properties:

- In the simplest case (e.g. when copying from the portable version), the Allevo master can be located directly in the program files directory: the Excel add-in is then also automatically found and loaded there.
- Alternatively, a registry entry for the program directory can be created using the program
 "Kern.Abc.Register.exe": this utility is also located under the program files (please call "Register.bat" or "Unregister.bat", the correct execution options are already stored there). With installation type 2) via the MSI setup, this registry entry is created automatically.

3.1 MSI setup

To install the ABC, an MSI installer package is available under the following name: "KernAllevoBusinessClientSetup.msi".

The setup program checks all relevant system requirements and performs the following installation steps:

- Select destination directory
- Selection of the following features
 - Installing the program files
 - Installation of components for Headstart (optional)
 - Create shortcut

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- Installing Kern certificates
- Final dialog

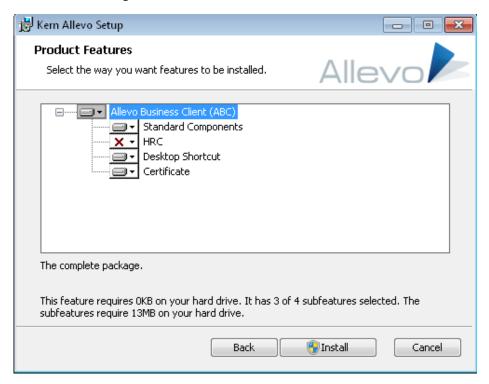


Figure 3.1: Product options in the MSI setup program

The included core certificates are of the code signature type; all program parts are signed with this certificate.

The MSI setup installs the ABC automatically for all Windows users on the PC and requires administrator rights: they are automatically requested if a user without administrator rights performs the installation.

The setup automatically removes old ABC installations and the associated temporary files (in the ProgramData directory). In this way, user-specific configurations are replaced by defaults.

Automatic installation

The following parameters can be passed for automatic installation at the command line level:

- "INSTALLDIR:" installation directory of the program files.
- "INSTALLCERT:" Install Kern certificates ("1" = yes, "0" = no).
- "INSTALLSHORTCUT:" Create shortcut for start via Panel ("1" yes, "0" no)

Notice: The last parameter defines whether the shortcut to start the Panel via the Windows Start menu or the desktop icon should be created. For the document mode with start via the Excel file such a shortcut is rather confusing.

The MSI setup file also contains some configuration files with default settings: Allevo.config, SapServerCustomizing.xml and AllevoWelcome.html. Particularly when using the Panel, it makes sense to adapt these files to individual requirements before installation. The modified configuration files must

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then be stored in the same directory as the MSI file. For the contents of the files, see section **Error! Reference source not found.**.

3.2 Install portable version

This installation variant consists of a file folder that contains all program files and can be copied to any directory on the user's PC. The Allevo Panel is started there directly via "Kern.Abc.Panel.exe".

If you also copy an Allevo master to the target directory and start the file by double-clicking (document mode), the master also automatically loads the ABC program files from this directory, e.g. the add-in for logging on to the SAP system.

If the Allevo master is located in a different directory, you must ensure yourself that it finds the ABC add-in. To do this, the "Kern.Abc.Register.exe" program should be run once: it creates an entry in the Windows Registry, which then points to the path to the add-in. The exact finding logic is described in the following section.

Notice:

If "Kern.Abc.Register.exe" is executed without administrator privileges, then the program creates the registry entry only for the current user ("current user"). In this case, please ignore the red messages for the "local machine".

When calling the program via command line with parameter "/remove", all current ABC Registry entries are deleted (state is then as with first call).

For the simplified call, the two command files "Register.bat" and "Unregister.bat" are included in the delivery.

Especially for workshop demonstrations, the portable version can also be delivered directly as part of an Allevo master: double-clicking it automatically unpacks the associated program files. All other Allevo functions are the same as for the portable version.

3.3 Additional function for Allevo HeadStart (formerly HRC)

Functions of the HeadStart add-on module are only loaded if the associated program files (starting with HRC*) can also be found in the program directory.

Depending on the type of ABC delivery (e.g. sending by email) it can happen that these files are still blocked by Windows security functions. This prevents the call in HeadStart mode: The locks can be removed via the respective file properties or via program "Kern.Abc.UnlockFiles.exe".

3.4 Finding ABC add-in in document mode

Functions that are provided via SAP in the Inplace version of Allevo can be accessed in ABC via the "SAP" icon in the "Navigation" menu ribbon (e.g. with all functions for transferring data to SAP). The icon is active as soon as the associated ABC add-in is found when the Allevo master is started (implemented via the "SapAdapterDna.xII" file).

To determine this file and associated path, the following criteria are queried when the Allevo master is called:

- "AllevoAddinPath" entry in the extended properties of the master.
- "AllevoTemplatePath" entry in the extended properties of the master.

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- Search in the directory where the master is stored and thus also was started there (only possible with XLSM format, not with XLTM).
- Search for registry key "AddinPath" under "HKEY_CURRENT_USER\Software\KernAG\AllevoSapA-dapter".
- Still search registry key "AddinPath" under "HKEY_LOCAL_MACHINE\Software\KernAG\AllevoSapAdapter".

The first valid path is taken. So this important assignment can be set up very flexibly (depending on the customer's needs).

The search is only executed if there is at least one entry in the ABC section on the Allevo Customizing sheet.

Notice:	The ABC add-in is only searched for and loaded when an Allevo master is started. It remains active as long as the Allevo is being used: when the master is exited, the add-in is removed again.
	So when working with other Excel applications, the add-in is not active.

3.5 Macro security

If Excel is set up for increased macro security, certificates are required for working with the Allevo Master, which can be installed via the MSI setup or manually.

If the certificates are not installed, the user can optionally allow the execution of the macros even when the master is started (unlike the Inplace mode, where SAP hides the associated query).

3.6 RFC connection: technical requirements

The ABC uses the SAP .NET Connector 3.0 to access data in the SAP system. An RFC connection is established in the background for this purpose.

To establish RFC connections, the .NET Connector usually uses port 33xy (with xy as the instance number of the SAP system, e.g., "3300" for instance number "00"). This port must also be enabled when calling ABC (or 48xy for SNC communication).

The ABC can take the necessary configuration parameters of the RFC connection from the SAP Gui settings (if installed):

- By default, ABC searches for a file "saplogon.ini".
- As of Allevo version 3.4, the ABC also supports the new XML format introduced with SAP Gui version 7.4 (SAPUILandscape.xml file).

The files in the default directory of the local SAP Gui installation are searched for as long as no ABC specific parameters are specified. Only a general server name for the activation of the SAP login dialog must be entered (for details on the configuration see section 4.2.2 and 4.3.2).

3.7 RFC connection: required permissions

ABC uses the SAP .NET Connector 3.0 to access data in the SAP system. The logon to the SAP system is user-specific: all SAP authorizations and consistency checks are therefore also observed in ABC

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mode. The associated functions in the SAP system are implemented as Allevo-specific function modules that are called via an RFC connection.

To enable access via the RFC connection, a few additional authorizations are required compared to the Inplace mode, which must be maintained for authorization object S_RFC. Related information is described in SAP Note 460089 (= Minimum authorization profiles for external RFC programs). Relevant for ABC is the information on item "3. Calling a function module via the dynamic repository".

Here is a brief summary of the function groups for which authorization is required (entry in the RFC_NAME field for authorization object S_RFC):

• SYST System interface

SYSU RFC resource administration

RFC1 RFC Utilities

• SDIFRUNTIME Interfaces for type runtime objects

RFC METADATA Read RFC metadata

BAPT Transaction control for BAPIs

In addition to the above-mentioned RFC minimum authorizations, the following two Allevo-specific function groups must be authorized and thus entered at S_RFC:

/CORE/IPPRFC
 Allevo ABC RFC functions

/KERN/IPPHRC_IFFG
 Allevo HRC (if additional module HeadStart is used)

The following figure shows an example.

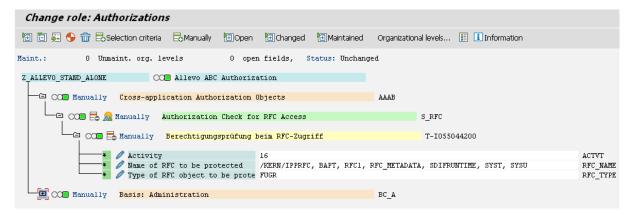


Figure 3.2: Necessary RFC authorizations for the SAP connection

In newer SAP releases it is alternatively possible to assign RFC authorizations also for individual function modules (i.e. not only on function group level). This requires the entry "FUNC" in the RFC_TYPE field. In this case all function modules of the function group /KERN/IPPRFC must be entered and of course the modules of the function groups mentioned above in the SAP note.

Notice: In case of an RFC access without the necessary authorizations, SAP aborts the call of the respective function and generates an ABAP runtime error. An analysis can be done as usual with transaction ST22 (e.g. there is a note on function module SYSTEM_RESET_RFC_SERVER, if authorization for function group SYSU is missing).

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4 Configuration parameters of the ABC (Customizing)

4.1 Difference document mode and call via Panel

Depending on how the ABC is to be started (Panel or document mode), the form of entering configuration parameters also differs:

- In document mode, the parameters are stored directly in the Excel master (section "ABC Settings" on the customizing sheet).
- For the start via panel the parameters have to be entered in additional configuration files (e.g. file "SapServerCustomizing.xml").

First and foremost, settings are required for logging on to the SAP system and configuring the interface (SAP system parameters up to SSO). The associated parameters result directly from the setting options that SAP offers for the .NET Connector; in individual cases it can therefore be helpful to also consult the original interface documentation from SAP (NCo_30_ProgrammingGuide2.pdf).

Other settings relate to the user interface and depend primarily on the mode in which the call is to be made (panel or document mode). These include settings for the language, relevant organizational units (controlling area, layout) or also the welcome text when calling up via Panel.

Since the user normally decides alternatively for one of the two start modes, we have also separated the settings accordingly in the following.

4.2 Customizing for start in document mode

4.2.1 Function overview

ABC can be started directly via the Allevo master (e.g., by double-clicking on the file or also via a portal). Planning data from offline files is also transferred to the SAP system via this document mode.

In this case, the necessary details for the SAP logon and other parameters are entered directly in the Allevo master (|Customizing| worksheet under "ABC Settings").

Notice:

In the simplest case (e.g. for testing in the workshop), ABC can also start completely without special Customizing entries. The possible parameters are then taken directly from SAP (for example, all Allevo layouts entered in SAP are offered for selection). Parameters of the relevant SAP system are taken from the SAP logon (if installed on the current workstation). Only a general name for activating the SAP logon dialog must be entered (see next section).

4.2.2 SAP Systems for the registration

Two variants are available to determine the parameters for RFC logon to the SAP system:

- 1. Entry of the parameters in the Customizing of the Allevo Master.
- 2. List of all SAP systems which are also stored in SAP Logon (transfer from "saplogon.ini" file, see section 3.6).

Important: The associated settings are stored directly in the Allevo master.

The file "SapServerCustomizing.xml" has NO meaning here (it is only relevant when called via Panel, see section 4.3.2).

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Variant (1) is normally preferable, since usually only a few SAP systems are relevant for planning via Allevo. The client can then also be permanently specified there.

The relevant RFC parameters of the SAP systems are to be entered in the Customizing section "ABC Server" of the Allevo master: exactly these systems are then available for selection in the SAP logon dialog. If necessary, the specifications can be taken over from the entries for the SAP logon.

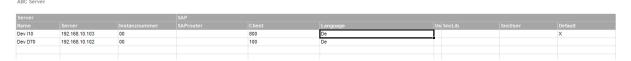


Figure 4.1: SAP systems for the RFC connection

The "Default" column marks the entry that should be proposed when logging on to the SAP system.

Information in the "User", "SncLib" and "SncUser" columns is only relevant when logging in via "Single Sign on" (SSO): Upper/lower case must be noted. If all required values are set correctly and Default=x, the SAP logon is done automatically (if SSO logon is desired, please contact our support to set the necessary configuration parameters).

For variant (2) with transfer of all SAP systems from the SAP Logon, only an arbitrary text/comment must be entered in column "Server Name"; e.g. "SAP Logon" to indicate where the system info comes from.

Important: The "Server Name" column must always have at least one entry so that the Allevo master can switch to ABC mode (with search and activation of the ABC add-in, see section 3.4). Without this add-in, the ABC-specific "SAP" icon would be missing from the "Navigation" menu ribbon.

4.2.3 Selection of the logon language

Under "ABC Language", the languages are entered which are to be selectable when logging on to the SAP system (see also notes in section 2.3).

ABC Language



Figure 4.2: Languages for logging on to the SAP system

The language key is entered as a two-digit indicator according to ISO. According to the illustration above, a region can also be included (separated by hyphen, e.g. DE-CH in the illustration above): this function can be helpful if automatic conversions are required before data is transferred to SAP (e.g. if numbers are to be written to a satellite field, which is defined there as a general text field).

The ABC will be delivered by default in EN English and DE German (as well as the ABAP part), so messages will appear in these languages. For work with Panel there is an extension to FR French.

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The default language in the SAP logon dialog is taken from the current Windows logon; if this language is not provided, the ABC changes to English. This language setting also applies to button texts, for example.

4.2.4 Presets for object selection

In ABC document mode, the layouts for which it is to be used are defined directly in the Allevo master (e.g. cost center master only for KS layouts, project planning only for object type PR). The object type, organizational unit (controlling area, for PC the company code) and the relevant layout are to be entered. You can also enter individual descriptions for the object selection dialog.



Figure 4.3: Definitions for the object selection dialog

Only the entered combinations are available later in the object selection Pop-up. Example:

- If only KS and OR are entered as "ObjectType" in "ABC Selection", then only these two entries appear in the object selection.
- Entries at "Organizational Units" reduce the selectable controlling areas (or company code at PC). Here, a further restriction by object type is possible for each organizational unit.
- The most important restriction is probably stored in "ABC Layout". If more than one Allevo master is used, it must be entered here for which layouts the respective master is to be used (i.e. the assignments as stored in the Allevo constants on the SAP page no longer apply).

If the tables are not maintained, the ABC fetches the corresponding selection lists from the SAP master data (but then layouts may appear for which the current master is not intended).

4.3 Starting customizing via the ABC Panel

4.3.1 Function overview

When ABC is started via the Panel, the necessary customizing settings must be entered in special configuration files (e.g. with a list of the relevant SAP systems). When the Panel is called for the first time, these configuration files are copied to the local working environment of the respective user. The easiest way to access these files is via the Pop-up to the Allevo versions in the Panel.

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Figure 4.4: Allevo version with access to configuration and log.-files

When you start via Panel, you can select from all the layouts that are stored in the general Allevo Customizing on the SAP page. Specifications such as those for document mode are therefore not required here.

The matching Allevo master is also loaded automatically via a selected layout. This assignment is made via Allevo constants (the same as in Inplace mode).

4.3.2 SAP systems and language

As in document mode, there are again two variants available for determining the parameters for RFC logon to the SAP system:

- 1. Entry of the parameters in ABC Customizing
- 2. List of all SAP systems, which are also stored for the SAP Logon (transfer from "saplogon.ini" file, or the landscape files from SAP Gui version 7.4).

The parameters for variant (1) with logon to the SAP system are to be entered in file "SapServerCustomizing.xml". The file can be customized using a text editor (e.g. Windows Notepad). Here server and languages can be entered analog to the customizing for the document mode (if necessary also SSO, see section 4.2.2).

A simple example:

```
<?xml version="1.0" encoding="utf-8"?>
```

<Customizing>

<SapServers>

<SapServer Name="Test" Server="SAPDEVI12" Instanznummer="00" Client="800" />

</SapServers>

<Languages>

<Language Language="DE" Description="German" />

<Language Language="EN" Description="English" />

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</Languages>

</Customizing>

Figure 4.5: Example of SAP system information in SapServerCustomizing.xml file

In this example the languages are DE and EN. For supplementary notes on the selection of languages, see section 4.2.3.

With call variant (2), the ABC can offer all SAP systems for selection that are stored for the SAP logon (see section 3.6 on the technical requirements). All that is required is that the "SAP Server Name" parameter contains a text (arbitrary); e.g.:

<SapServer Name="Read from SAP logon"</pre>

All other configuration parameters for the SAP system remain empty in this case (except language). This variant is usually also included in the ABC delivery.

Notice:

The configuration file "SapServerCustomizing.xml" (as well as "WelcomePage.html"; see below) is searched by default in the program directory from which the ABC Panel is called. At the first start the file is copied to:

%PROGRAMDATA% with subdirectory \Kern\Allevo

For Windows 7, for example, it is the directory "C:\ProgramData\Kern\Allevo", if not set up otherwise. In this copied configuration file the parameters can be adapted user-specifically (which however, only should be necessary in exceptional cases).

Alternatively, the target path can be freely defined via the "CentralCustomizingFolder" configuration parameter in the "Allevo.config" file (see following section). In this way, central access could also be set up without copying to a user-specific directory.

4.3.3 ABC Welcome Text

The content in the Welcome tab of the Panel is read from the "AllevoWelcome.html" file and can be customized using any HTML editor. A standard text is included in the ABC scope of delivery:

When ABC is started for the first time via Panel, this file "AllevoWelcome.html" is copied to the %PROGRAMDATA% path, as already described for SapServerCustomizing. Changes to the welcome text according to the customer requirements should therefore be made before the first call of the ABC panel (alternatively, central access must be set via "CentralCustomizingFolder").

The WelcomeText appears in the ABC Panel in the language of the SAP login, as far as the text is available language-dependent.

4.4 ABC configuration file "Allevo.config"

The "Allevo.config" configuration file in the program directory controls certain internal behaviors of the Allevo Business Client. The file can be customized using a text editor (e.g. Windows Notepad).

Notice: There are general parameters (e.g. to the log level), but a part is also relevant only for the execution via Panel.

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When the program is started for the first time, the file is copied to the program directory in "%AppData%\Kern\Allevo" (or to the directory specified in the "MainAppDataFolder" parameter). Exception: No copy is created if the Allevo master itself is located in the program directory and is started there via document version (should only be relevant in test situations).

After this copy, the parameters can be adjusted user-specifically, but this should only be necessary in exceptional cases (e.g. for settings for the log file in error situations). This can be called up via the "Log file" link in the popup to the Allevo icon "About"; administrator rights are not required for this.

Here is an overview of currently used XML configuration parameters in Allevo.config:

Key	Meaning
MainAppDataFolder	If available, the path to the AppData directory is entered here, from which all further configuration data is read.
	Recommended value to the parameter is "%AppData%\Kern\Allevo".
	Without entry "%ALLUSERSPROFILE%\Kern\Allevo" is used.
	The target directory is used, for example, for storing the user-specific Allevo.config and for the ABC log. When Allevo is called up for the first time, the corresponding files are copied from the program directory to the target directory entered.
	The parameter also describes the path to a temporary copy of an Allevo master after download from BDS (cache): this temporary file can therefore not be stored separately in another directory.
	This parameter is always read from Allevo.config, which is located in the program directory (so where Kern.Abc.Panel.exe is also located, for example).
	If this entry for Allevo.config is changed in the program directory, then the ABC generates a completely new set of configuration files in the new target directory the next time it is called (can be useful for testing).
CentralCustomizingFolder	Path to the files with welcome text and SAP credentials.
	If this parameter is not set, the ABC searches for the two files in the directory specified by the parameter "MainAppDataFolder".
WelcomePage SapServerCustomizing	Name of the file with a welcome page (default name is "AllevoWelcome.html"), or the configuration file with SAP login data (default is "SapServerCustomizing.xml").
	Both files must be located in the path defined by the "CentralCustomizingFolder" parameter.
	If these parameters are not set, the default files from the program directory are used: they are copied to the user's AppData directory when the program is started for the first time and can be modified there without administration rights
SapObartTableName,	Various parameters for offline editing:
SapOrgunitTableName	The ABC falls back on these keys when an Excel file is to be saved locally in order to continue working with it offline. This is because when ABC uploads the plan data to the SAP
SapLayoutTableName SapServerTableName	system, it must remember all the parameters that are relevant for the subsequent logon.
LanguagesTableName	The offline master can then only log on to the SAP system with this information. These keys are used to assign the equivalent table names in Excel Customizing to the current parameters in ABC.
LastUserRegKey	The key under which the last SAP user name used is stored in the Windows regis-
	try is defined here. The name from the last SAP logon is automatically suggested again in the next logon dialog.
RootRegPath	The parameter defines the path to the Allevo Registry Root: it should not be changed.

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Key	Meaning
MasterCacheDays	Optionally, the ABC can locally cache any Allevo master that was loaded via the layout in the SAP system (can occasionally have performance advantages). Disadvantage: when changes are made to the master (e.g. in test phase), old versions may still be in use.
	The MasterCacheDays key specifies how many days a master should be cached locally at the highest level. A value of 0 is recommended, i.e. the master is reloaded (cache is cleared) with each ABC call.
CheckForDisabledItems	If the key is true, it will be checked at every program start if deactivated Excel add-in exist.
CheckForDeadExcel	If the key is set to true, each time the program is started, it checks whether Excel instances without a visible window exist.
ScreenSplitPercent	This key can be used to specify the horizontal division of the screen between the Panel and Allevo-Master as a percentage: Default value is a share of 25% of the screen area for the Panel.
SapConnectorTraceLevel	This key can be used to control an RFC trace.
	See the documentation of the "SAP .NET Connector 3.0" or also SAP note 1610818 about the trace in .NET Connector 3.0.
TransferBlockRowCount	Defines the size of the XML transfer blocks between SAP and Excel.
	The maximum number of lines in an XML block must be entered; the parameter can bring performance advantages with very large data volumes.
VbaRevisionPattern	Contains the Regular Expression Pattern for extracting version and date from Allevo VBA modules.

The ABC can create a log in which the most important program activities are recorded (e.g. also the entire data exchange with the SAP system). The logging function can be configured as follows.

Кеу	Meaning	
LogLevel	The key determines which ABC functions are to be logged: No logging (Log. Is completely switched off) Error messages only (recording of startup environment and error situations) Main events All events and transferred data (i.e. complete data exchange with SAP) All events and all transferred data (very many details about data exchange with SAP).	
LogTimestamp	By default, every event with time is written away in the log; using the LogTimestamp key, the time points can be suppressed.	
LogChars	The key limits the size of the log file 1-n Limits the maximum characters logged 0 Starts new log for each session	

The other parameters in the "Collex Settings" section determine the behavior of the "Collex" add-on module and can be found in the associated documentation.

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4.5 Structure of the line item list

The display of the line item list is completely mapped to Excel page when working in ABC. Basically, however, the same information/columns are available as in the Inplace mode (except jump to SAP reference documents). See also notes in section 2.4 on calling the SAP interface functions.

The column structure of the line item list can be flexibly adapted (e.g. different sequence or remove columns). The corresponding settings are stored for each object type on the Allevo Customizing sheet; section "ABC Settings" with list of activated object types (see Figure 4.3). Entries only appear under the heading "Line items" if the Pop-up for line items has been called up at least once in the master: a list of all the fields available in the respective line item list is then entered there, separated by actual, plan and commitment (separated by comma).

To change the layout of the line item list, the associated fields should be removed or reordered here. By appending a text (separated with colon) the text in the column header can be adjusted.

Example: OBART:object type,KOSTL:cost center,OBJTEXT,LSTAR,MANDT,KOKRS

This entry would show the headers "Object type" and "Cost center" in the header instead of the original abbreviation from the SAP database field.

The definition of the columns via the Customizing sheet in Allevo Master applies to document mode and call-up via Panel.

The meaning of the individual columns is certainly not always recognizable via the specified abbreviations. It can be helpful to display the corresponding data structures on the SAP side: see transaction SE11 with structure /KERN/IPP_S_xx_OFFL_ITEM_ACT (where xx is to be replaced by the abbreviation of the respective object type).

The structure of the line item list always depends on the object type. In the case of MultiObject applications with different object types, the structure of the line item list must therefore also be stored for each object type used.

4.6 Special notes

Excel allows you to save generally valid macros in a Personal workbook "Personal.xlsb", but this is not recommended for Allevo: it could result in the ABC not being able to exit the Excel instance completely.

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