



Automatic data exchange between Excel and SAP

System Requirements and Prerequisites



The screenshot shows the SimDia² Simulated SAP Dialog interface. At the top, it features the SimDia² logo and the text 'Simulated SAP Dialog'. Below this, there are links for 'SimDia² Manual', '© ERSAssoft 2022', and 'SimDia² Videos'. The main area is divided into 'Options' and 'Hints' sections.

Options

- File options:** Includes two file selection boxes, both containing 'PA30-IT15-Anlegen.xlsx' and 'PA30-IT15-Anlegen.simdia'. Below them is a 'Recording Wizard' dropdown menu and an 'Excel workspace' dropdown menu set to 'Entire file'. At the bottom of this section are input fields for 'from row...' (value: 2) and 'to row...' (value: 201).
- Processing options:** A list of checkboxes: 'Step-by-step' (checked), 'Stop at SAP errors' (checked), 'Ignore missing fields' (unchecked), and 'Workflow visible' (checked). Below this is a 'Processing speed' slider ranging from 'Slow' to 'Turbo', with the slider currently positioned towards 'Turbo'.

Hints

Matching files selected

Press 'Start import' to begin the data import
or
use the additional menu of the Recording Wizard for additional actions.

At the bottom of the interface, there are two buttons: 'Start import' and 'Quit SimDia²', both with dropdown arrows.

Preamble

SimDia² itself does not require any installation or setup on your system. It just needs to be unpacked into a directory of your choice after the download and is ready for use.

To perform the data exchange, **SimDia²** has to establish a connection between the SAP® transaction used and the data in Excel®. The data transfer and the communication with the application servers are handled by the SAP GUI Scripting API (Application Programming Interface), which is a component of SAP.

In order for **SimDia²** to establish the connection to SAP, some system requirements and SAP system settings must be observed.

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1. System Requirements

The following system requirements must be met for the use of **SimDia²**:

- ◆ SAP GUI for Windows, version 6.20 Patch Level 39 or higher
- ◆ Active SAP GUI Scripting (client and server)
- ◆ Microsoft Windows XP SP3 or higher
- ◆ Microsoft Excel 2003 or higher
- ◆ Unrestricted read permission for the **SimDia²** main directory for all users
- ◆ Unrestricted read/write/delete permission for the **SimDia²** "LIC" subdirectory for all users
- ◆ Named UNC directory path on the file server under which **SimDia²** is provided (only necessary for Concurrent User licenses)
- ◆ Optional: Internet connection (for displaying important notifications at **SimDia²** startup and for retrieving a list of SAP GUI versions with known errors in the SAP GUI Scripting component; see [chapter 3.4](#))

NOTE: This is solely a read-only data retrieval. No data is being sent whatsoever!

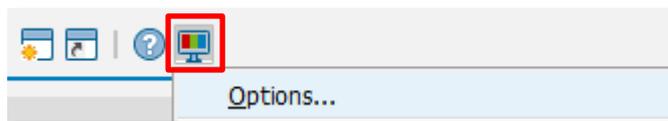
2. SAP System Settings

In order for **SimDia²** to use the SAP GUI Scripting API, it must be activated and correctly configured on both the client and the application server side.

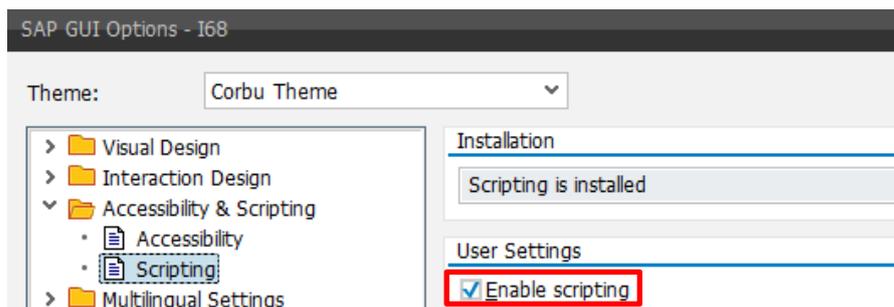
2.1 Activating SAP GUI Scripting on the user client

(This can be done automatically on **SimDia²** startup if desired):

- ◆ In any SAP window, click the button  (*Customize Local Layout*) and then select the menu item *Options...*

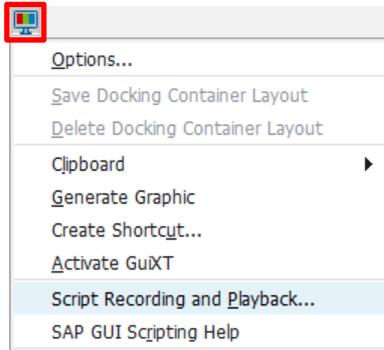


- ◆ Navigate to *Accessibility & Scripting - Scripting*.
- ◆ Set the check mark for the option *Enable scripting*.
- ◆ Confirm with clicking *OK*.



2.2 Activating SAP GUI Scripting on the application server

As with the client (see above), SAP GUI Scripting has to be active on the application server as well.

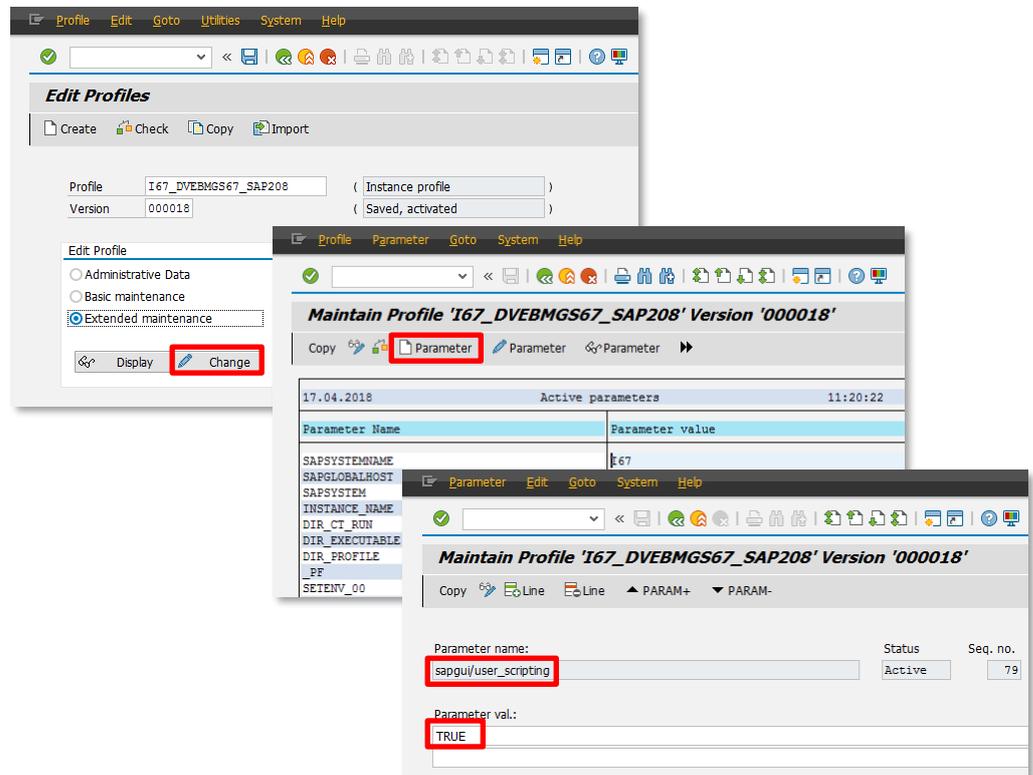


You can easily check if SAP GUI Scripting is enabled on the application server. In any SAP window, simply open the menu by clicking the button  (*Customize Local Layout*). The menu item *Script Recording and Playback* must be selectable.

If this is not the case, SAP GUI Scripting has to be activated on the application server:

2.2.1 Permanent activation of SAP GUI Scripting on the application server

- ◆ Start Transaction *RZ10*.
- ◆ Select the required Instance profile and the Edit Profile option *Extended maintenance* and click the *Change* button.
- ◆ In dynpro *Maintain Profile xxxx*, click the button *Create Parameter*.
- ◆ Type in the Parameter name *sapgui/user_scripting* and the Parameter value *TRUE*.
- ◆ Confirm by clicking the *Copy* button.



- ◆ Afterwards, all affected SimDia² users have to quit and restart their SAP GUI in order for the settings to become effective.

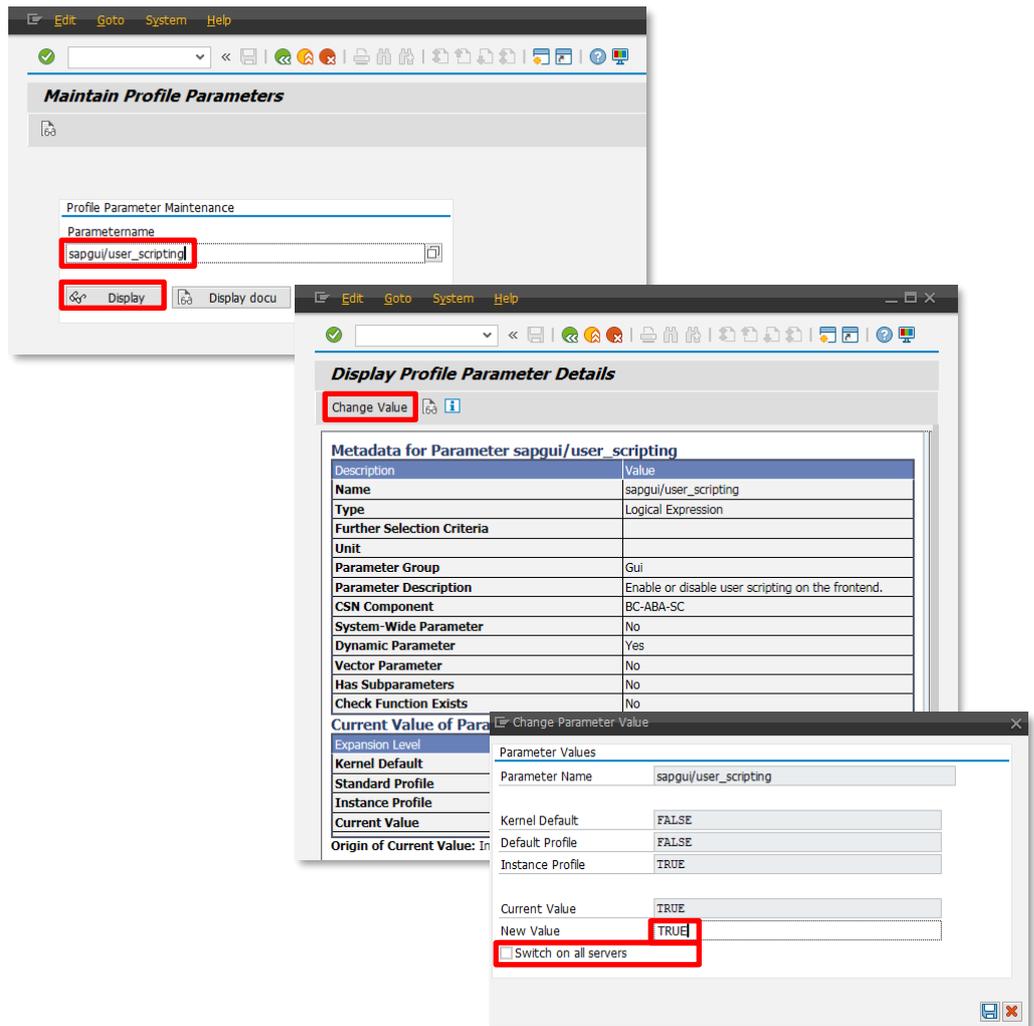
SimDia² System Requirements & Prerequisites

2.2.2 Temporary activation of SAP GUI Scripting on the application server

NOTE: In the case of a temporary activation of SAP GUI Scripting, the value must be set again each time the application server (not the client!) is restarted.

Procedure:

- ◆ Start Transaction *RZ11*.
- ◆ In dynpro *Maintain Profile Parameters*, type in the Parameter name *sapgui/user_scripting*.
- ◆ Click the button *Display*.
- ◆ In the dynpro *Display Profile Parameter Details*, click the button *Change Value*.
- ◆ Enter *TRUE* into the field *New Value*.
- ◆ In case your SAP system has several application servers and uses load balancing, you should set the check box *Switch on all servers* in addition. Otherwise, the profile parameter for enabling SAP GUI Scripting is only set when you log onto the current application server.
- ◆ Save your changes by clicking the button *Save change* .



- ◆ Afterwards, all affected SimDia² users have to quit and restart their SAP GUI in order for the settings to become effective.

2.3 Additional server profile parameters

In addition, also check the following server profile parameters and their values (applies to both permanent and temporary activation of SAP GUI Scripting):

Profile Parameter	Value
sapgui/user_scripting	TRUE
sapgui/user_scripting_per_user	FALSE
sapgui/user_scripting_disable_recording	FALSE
sapgui/user_scripting_force_notification	FALSE
sapgui/user_scripting_set_readonly	FALSE
sapgui/nwbc_scripting (EHP7 onwards)	FALSE

3. Information regarding SAP GUI Scripting

3.1 Security assessment

Occasionally, there are concerns considering possible security risks allegedly arising from activating SAP GUI Scripting. Generally however, these concerns are baseless.

The SAP server does not differentiate between SAP GUI communications triggered by SAP GUI Scripting or manual input by a user.

An action performed by SAP GUI Scripting has the exact same permissions regarding the executable transactions and data input or evaluation as the respective user who is currently logged on. Additionally, the same validation rules, user routines etc. apply (contrary for example to several other SAP-internal data exchange mechanisms).

This is an excerpt from the official [SAP GUI Scripting Security Guide](#):

- *Can a script corrupt the SAP system's data? **No***
- *Can a script access data for which the end user does not have the necessary privileges? **No***
- *Can a script record passwords? **No***
- *Can a script run in the background without the end user's knowledge? **No***
- *Can SAP GUI Scripting be used to corrupt the client PC? **No***

Does activating SAP GUI Scripting hold any security risks?

3.2 Configuring authorization for using SAP GUI Scripting on a per-user basis

In addition, SAP has recently made further efforts to resolve the last concerns about activating SAP GUI Scripting. As a result, the authorizations for using SAP GUI Scripting can now be assigned or restricted down to the individual user level.

To do this, set the server profile parameter *sapgui/user_scripting_per_user* to *TRUE* and assign to the respective users the SAP authorization for the "Execute(16)" action of the authorization object "S_SCR" in the class "BC_A".

You can find the corresponding information from SAP here:

<https://launchpad.support.sap.com/#/notes/983990>

<https://launchpad.support.sap.com/#/notes/2296251>

3.3 Configuring read-only mode for SAP GUI Scripting on a per-user basis

Furthermore, SAP GUI Scripting can be set so that it can only process data in SAP in a reading manner (for example, for the use of a screen reader or SAP Enable Now), but not alter it in a writing manner. This is possible by using the read-only mode for SAP GUI Scripting. Just like SAP GUI Scripting itself, the read-only mode can be activated on a per-user basis.

Read-only mode for SAP GUI Scripting is activated by setting the server profile parameter *sapgui/user_scripting_set_readonly* to *TRUE*. However, this will initially activate SAP GUI Scripting globally in read-only mode for all users (regardless of the settings of the abovementioned profile parameter *sapgui/user_scripting_per_user*).

Only in conjunction with the following additional SAP parameters can it then be configured more precisely which users are allowed to use SAP GUI Scripting fully, read-only or not at all:

- ◆ Registry entry "ScriptingPerUserAccountExecute" set or not set
- ◆ Server profile parameter *sapgui/user_scripting_per_user* set to *TRUE* or *FALSE*
- ◆ Authorization object "S_SCR" with action "Execute(16)" in class "BC_A" assigned or not assigned

However, the interrelation between these 4 parameters is quite complex. Therefore, we recommend that you read the corresponding information from SAP on this topic very carefully if you want to use read-only mode for SAP GUI Scripting and configure it on a per-user basis.

You can find the corresponding information from SAP here:

<https://launchpad.support.sap.com/#/notes/2565390>

NOTE: SimDia² requires full access to SAP GUI Scripting. Read-only mode for SAP GUI Scripting must therefore be deactivated for all SimDia² users.

3.4 Versions of SAP GUI with faulty SAP GUI Scripting

Unfortunately, some versions of SAP GUI have been distributed by SAP containing errors within the SAP GUI Scripting component. These errors can impair or prevent the correct operation of **SimDia²**. We therefore recommend that you do not use the following versions of SAP GUI:

Release	Patch Level	Hotfix	Remark
7.40	11	-	
7.50	4	-	
7.50	4	1	
7.50	6	-	
7.50	6	1	
7.50	6	2	
7.50	10	-	Only when using the Belize Theme*
7.60	0	-	Only when using the Belize Theme*
7.60	5	1	
7.60	11		
7.70	2		
7.70	2	1	
7.70	2	2	

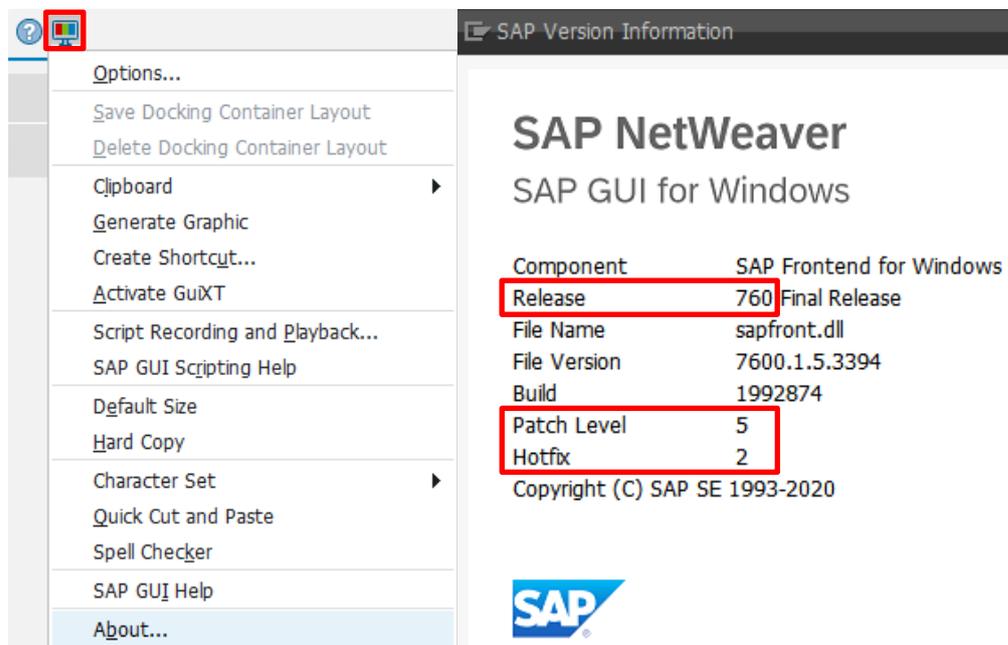
* When using other themes for the SAP user interface (e.g. Corbu or Blue Crystal), these versions of SAP GUI work with **SimDia²** without problems. We generally recommend to not use the Themes “Belize” as well as “Quartz” in SAP, since these can cause various problems aside from **SimDia²**.

You can see the theme and the associated options currently set for the SAP user interface in SAP by clicking the button  (*Customize Local Layout*) and selecting *Options... - Visual Design - Theme Settings*.

Themes for the SAP user interface

Currently installed version of SAP GUI

In SAP, you can see which version of SAP GUI is currently installed on your system by clicking the button  (*Customize Local Layout*) and selecting the menu item *About...*



4. SimDia² on remote environments like Citrix[®]

The operation of **SimDia²** on remote environments like Citrix usually poses no problems. Since **SimDia²** accesses both SAP GUI and Excel via standard interfaces, it is only necessary that this access is also ensured transparently within the remote environment.

Normally, it is sufficient for all three components

- SAP GUI
- Excel
- **SimDia²**

to run on the same remote server. However, it is also possible for Excel to run locally on the user client, if the remote server allows access to it.