



PUBLIC

# **SAP S/4HANA Migration Cockpit**

## Frequently Asked Questions (FAQs)

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## GENERAL QUESTIONS

### ➤ What can I do with the SAP S/4HANA Migration Cockpit? Can I use the SAP S/4HANA migration cockpit for the mass processing of data or as an interface to frequently load data into a system?

The SAP S/4HANA migration cockpit is designed for customers who have just installed SAP S/4HANA or are using SAP S/4HANA Cloud and want to move their legacy data from SAP or non-SAP software systems. It allows users to migrate their master data and transactional data to SAP S/4HANA, and it facilitates this process by providing predefined migration content and mapping. The SAP S/4HANA migration cockpit is part of both SAP S/4HANA and SAP S/4HANA Cloud.

The SAP S/4HANA migration cockpit and associated content (migration objects) are neither intended nor recommended to be used as an interface to frequently load data into a system or to mass change existing data. For more details, see SAP Note [2684818](#) - Migration Cockpit usage.

### ➤ What is the licensing model for SAP S/4HANA migration cockpit?

The SAP S/4HANA migration cockpit is delivered with SAP S/4HANA (On Premise) and SAP S/4HANA Cloud. No additional licenses are required.

### ➤ Which data transfer options (data migration approaches) are available?

Currently, three migration approaches are possible:

- Transfer data using files ([SAP S/4HANA](#)) and [SAP S/4HANA Cloud](#))
- Transfer data using staging tables ([SAP S/4HANA](#) and [SAP S/4HANA Cloud](#))
- Transfer data directly from SAP System (new with [SAP S/4HANA](#) 1909, only for On-Premise)

For more information about the SAP S/4HANA migration cockpit, please refer to:

SAP S/4HANA migration cockpit landing pages:

- SAP S/4HANA: [http://help.sap.com/S4\\_OP\\_DM](http://help.sap.com/S4_OP_DM)
- SAP S/4HANA Cloud: [http://help.sap.com/S4\\_CE\\_DM](http://help.sap.com/S4_CE_DM)

SAP Help Portal:

- [SAP S/4HANA Migration Cockpit](#)
- [SAP S/4HANA Migration Cockpit – Cloud](#)

Overview presentation: [SAP S/4HANA Migration Cockpit - Migrate your Data to SAP S/4HANA](#)

### ➤ What is the difference between SAP Data Services and SAP S/4HANA migration cockpit?

**SAP Data Services** is an ETL (Extract, Load and Transform) tool which allows you to extract data from a source database, transform that data to meet customer's business requirements and load the data into one or more target locations. This information management software provides functionality for data integration, quality, cleansing, and other ETL purposes.

- For more information about SAP Data Services see: [SAP.com \(SAP Data Services\)](#)

**SAP S/4HANA migration cockpit** covers the aspects of transform and load data, allowing users to migrate data from a legacy system to SAP S/4HANA. It is included in SAP S/4HANA and SAP S/4HANA Cloud – no additional installation or license is required. For more information about the SAP S/4HANA migration cockpit refer to our landing pages:

- SAP S/4HANA [http://help.sap.com/S4\\_OP\\_DM](http://help.sap.com/S4_OP_DM)
- SAP S/4HANA Cloud: [http://help.sap.com/S4\\_CE\\_DM](http://help.sap.com/S4_CE_DM)

➤ **What is SAP Rapid Data Migration for SAP S/4HANA?**

Rapid Data Migration for SAP S/4HANA is free-of-charge content for SAP Data Services (DS/BODS). This is an ETL tool. The basic license of the tool is included in the HANA DB license. You cannot use Rapid Data Migration for S/4HANA Cloud. For more information, refer to the following blog:

- [Request an SAP Data Integrator Key Code for Rapid Data Migration to SAP S/4HANA](#)

➤ **I am using LSMW. Should I have a look at SAP S/4HANA migration cockpit? What are the advantages and disadvantages of using LSMW?**

The Legacy System Migration Workbench (LSMW) is on the simplification list and is no longer supported in the SAP S/4HANA context. Even if the LSMW could theoretically be used in some areas, it might propose incorrect migration interfaces that can no longer be used in SAP S/4HANA. You should be careful with the batch input and recordings. For more information, see SAP Note [2287723](#) (LSMW in SAP S/4HANA on-premise).

➤ **Is the SAP S/4HANA migration cockpit integrated with Solution Manager 7.2, SAP Activate Methodology?**

Yes, the SAP S/4HANA migration cockpit is already part of the [SAP Activate Methodology](#).

➤ **What authorizations are required to use the SAP S/4HANA migration cockpit?**

To transfer data using the SAP S/4HANA migration cockpit, certain roles are required:

***Prerequisites for on-Premise File & Staging Approaches:***

For SAP S/4HANA On-Premise the following business role is needed:

- Role SAP\_CA\_DMC\_MC\_USER is required.

To use the SAP S/4HANA Migration Object Modeler (transaction LTMOM) you require:

- SAP\_CA\_DMC\_MC\_DEVELOPER

For current information and more details, please see the [Help Portal](#).

***Prerequisites for Cloud File & Staging Approaches:***

For SAP S/4HANA Cloud the following business roles are needed:

- SAP\_BR\_CONFIG\_EXPERT\_DATA\_MIG
- SAP\_BR\_BPC\_EXPERT

For current information and more details, please see the [Help Portal](#).

***Prerequisites for Direct Transfer Approach:***

For SAP S/4HANA On-Premise the following business roles are needed:

- Role SAP\_DMIS\_OBT\_MASTER
- Role SAP\_BR\_CONFIG\_EXPERT\_DATA\_MIG

For current information and more details, please see the [Help Portal](#).

**Note:** In addition to the roles mentioned above, the corresponding role for each migration object is also required.

On the SAP Help Portal, you can switch between different releases by using the appropriate drop-down list.

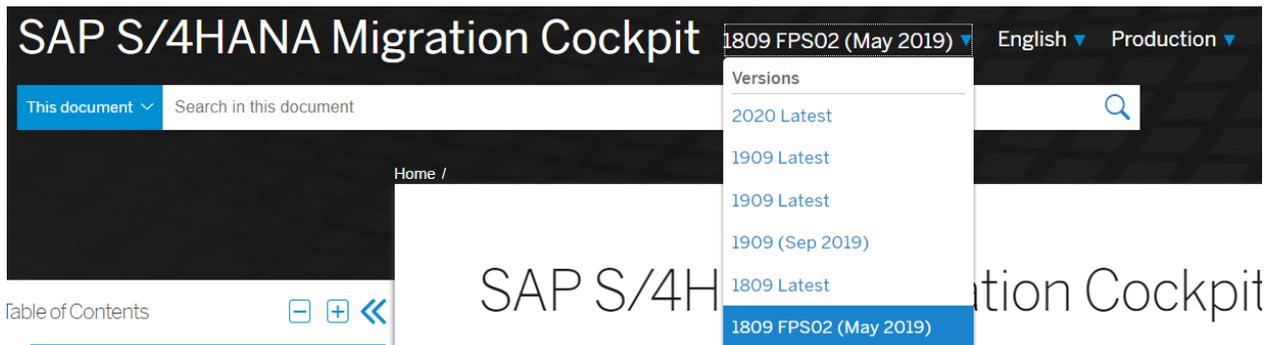


Figure 1: Switching between different SAP S/4HANA releases

- **Are we able to use the SAP S/4HANA migration cockpit to update existing data? For example, if data already exists in the target system, can I update the data using the SAP S/4HANA migration cockpit?**

No, with the SAP S/4HANA migration cockpit an update is not possible. It is only possible to add additional data. This depends on the API that the object uses. For example, for the migration object Customer you can extend existing records by new org levels (by using the object "Customer - extend existing record by Credit Management data").

- **Is there a near zero downtime approach?**

There is no technique for a near zero downtime approach using the SAP S/4HANA migration cockpit.

- **Does the SAP S/4HANA migration cockpit migrate Customizing data?**

No, the migration of Customizing data is not currently supported.

- **Which additional migration objects are planned? Is there a roadmap for migration objects?**

The roadmap indicates which additional migration scenarios or topic areas are in scope. We currently do not reveal a roadmap for planned migration objects. If you have questions about specific objects, you can contact us at [sap\\_s4hana\\_migration\\_cockpit@sap.com](mailto:sap_s4hana_migration_cockpit@sap.com)

- **Which migration approach is most suitable for my migration project?**

**General recommendations:**

- Use files if you want to import a small amount of data manually. It gives you the opportunity to have an overview of the entered data.
- Use staging tables if you want to transfer a lot of data to SAP S/4HANA in an automated way. Staging tables are database tables and therefore they provide greater flexibility than files regarding managing data (for example: sorting data, searching for data, checking for duplicate records and so on). Staging tables is a more efficient way of transferring large data volumes.
- Use the approach *Transfer Data Directly from SAP System* if you want to transfer data from ABAP-based SAP source systems. For this approach, data is selected and extracted directly from SAP system and transferred to SAP S/4HANA.

Note the following considerations when deciding on the most suitable approach for your project:

			
	Transfer Data Using Files	Transfer Data Using Staging Tables	Transfer Data Directly from SAP System
Availability			
Source System	Any source system (SAP or non-SAP)	Any source system (SAP or non-SAP)	ABAP-based SAP source systems
Data Volume	Small and medium volumes of data	Large volumes of data	Any volume of data volumes of data
Data Provisioning	XML template files filled by customers	Staging tables filled by customers (using e.g. SAP Data Services, SDI, SAP HANA Studio, open SQL, or any 3rd party ETL Tools)	Data selected and extracted directly from SAP system
Data cleansing	Before starting the migration project, or in the XML template files	Before starting the migration project, or in the staging tables	Before starting the migration project. Note that you can always adjust the selection of data by using the migration object modeler

➤ **Is it possible to download value mappings?**

For the migration approaches *Transfer Data Using Files* and *Transfer Data Using Staging Tables*, you can download and upload the value mappings for a single translation object in the SAP S/4HANA migration cockpit. For the approach *Transfer Data Directly from SAP System*, you can download and upload the value mappings using the Migration Object Modeler (transaction LTMOM).

➤ **Is there a central mapping at cross project level?**

There is no central mapping at cross project level. For projects that use the same migration approach, you can download and upload the mapping from one project to another.

➤ **What is the difference between a data migration using SAP S/4HANA migration cockpit and a selective data transition?**

The SAP S/4HANA migration cockpit is an *SAP standard function* for loading data into the SAP S/4HANA and SAP S/4HANA Cloud. It is used particularly in the context of new implementations of SAP S/4HANA and loads data by using standard SAP APIs.

A *selective data transition* goes beyond a standard new implementation or system conversion and is realized within customer-individual projects. In these projects, specific expert tools are used to migrate all kinds of data at the table base (direct insert). This gives high flexibility to tailor the set of data to customer-individual needs. Selective data transitions require special expertise and experience, benefits and risks must be evaluated for each case individually.

Looking at the set of data that is available in the SAP S/4HANA target system:

- In a system conversion, the full set of data remains in the system.
- Within a selective data transition, you get the option to transfer fewer data and leave selected data behind.

For example, data belonging to obsolete company codes could be left behind. Moreover, in a system conversion, the business processes configured in the system remain basically as they are, except necessary adaptations resulting from data model changes or simplifications. Within a selective data transition, you get the option to select process- or module-wise which processes you want to continue with.

In a new implementation, the SAP S/4HANA migration cockpit offers preconfigured data migration mainly for master data, open items, and balances. Historic data can be migrated using the SAP S/4HANA migration cockpit only if the migration is supported with an SAP standard API. Example: FI - historical balances.

Within a selective data transition, you have the flexibility to migrate additional data. Typically, this includes migrating a certain amount of historical data. For example, you might want to transfer historic data belonging to long-running projects. Customizing differences between source and target can be bridged to a certain but limited extent.

Any selective data transition starts with a customer-individual assessment of the situation and requirements, which needs to be performed by SAP Digital Business Services or specialized SAP Partners with the necessary experience with such an approach.

Compared to that the SAP S/4HANA Migration Cockpit is an SAP Standard function and can be used out of the box and does not require developer skills. It is easy to use and provides step-by-step guidance through the migration process.

➤ **How is the SAP S/4HANA migration cockpit positioned compared to other data migration offerings?**

The SAP S/4HANA migration cockpit is SAP's recommended tool of choice for the migration of business data to SAP S/4HANA and SAP S/4HANA Cloud.

Please refer to the [Mapping your Journey to SAP S/4HANA](#) for an overview of other SAP data migration offerings and their delimitation. If you'd like to receive a more detailed understanding, please have a look at our [Open SAP Course](#).

➤ **Can historical data be migrated using SAP S/4HANA Migration Cockpit?**

The SAP S/4HANA Migration Cockpit is used to migrate data within a New Implementation scenario into S/4HANA and S/4HANA Cloud. For this, only master data and open items/balances are in scope. Historical data is not covered.

For the migration approaches *Transfer Data Using Files* and *Transfer Data Using Staging Tables*, it is possible to load historical balances for general ledger accounts into the universal journal. It is only intended for reporting purposes. There is one migration object available that can be used to create historical balances in FI (see SAP Note [2587192](#)). In addition, SAP S/4HANA Cloud customers can migrate additional data using Side-By-Side Extensibility. Please refer to the sample scenario "Migrated Sales Order Data".

Nevertheless, it is possible to transfer some historical data on a project basis (consulting request) when SAP is leading the project.

➤ **Where can I find system requirements and prerequisites for using the SAP S/4HANA Migration Cockpit On-Premise?**

You can find this information in the [Installation Guide for SAP S/4HANA](#). Please refer to Chapter 7 "Installation Follow-up Activities". The document also provides information on the necessary authorizations for using the related transactions LTMC and LTMOM.

➤ **How should I setup my migration project?**

Each migration project is unique with regards to planning, timing, resources, data volume, and so on. You can find some information about the project methodology to prepare and set up your migration project in our overview presentation: [SAP S/4HANA Migration Cockpit - Migrate your Data to SAP S/4HANA](#)

➤ **Is the SAP S/4HANA migration cockpit integrated with SAP Master Data Governance (MDG)?**

A complementary usage of SAP MDG on SAP S/4HANA and SAP S/4HANA Migration Cockpit is possible, but there is currently no integration out of the box. Upload and download of mappings are possible in the SAP

S/4HANA migration cockpit. There's no automatized exchange of key mappings of master data from UKMS (Unified Key Mapping Service).

➤ **Are there any guidelines about how and when to use the migration tool suite – SAP S/4HANA migration cockpit, Migration Object Modeler, ABAP, Hybrid, etc.?**

We cannot cover the complete scope with the SAP S/4HANA migration cockpit. This needs to be discussed during the project set-up phase.

➤ **Does SAP S/4HANA migration cockpit support model companies?**

All available migration objects can be used in model company systems.

➤ **Does SAP S/4HANA migration cockpit support industries?**

The SAP S/4HANA migration cockpit and all available migration objects can be used to migrate data for industries. Refer to the object-related information in the SAP Help Portal to get a list of objects available for the product version that you are interested in. Some industry-specific requirements are already covered, and additional developments are planned.

➤ **Does SAP S/4HANA migration cockpit support best practice deployments?**

Yes, the SAP S/4HANA migration cockpit can be used in best practice deployments.

➤ **Where can I find news about the SAP S/4HANA migration cockpit and data migration content (migration objects)?**

There are two types of newsletters: Development Newsletter and Data Migration Content Development Newsletter. These Newsletters are published regularly in the SAP Help Portal:

- [SAP S/4HANA Migration Cockpit – Development Newsletter](#)
- [SAP S/4HANA Data Migration Content Development Newsletter](#)

➤ **Is there a hands-on or demo system available for the SAP S/4HANA migration cockpit?**

Currently there are no demo systems for this purpose.

➤ **Are there any guidelines for customers about the transition to SAP S/4HANA?**

There is a tool manifesto or document "[Mapping Your Journey to SAP S/4HANA](#)" from the MOVE program which address which tools to use.

➤ **Where can I find general information about the SAP S/4HANA migration cockpit?**

All the external information on SAP S/4HANA and SAP S/4HANA Cloud you can find in our Landing pages:

- SAP S/4HANA: [http://help.sap.com/S4\\_OP\\_DM](http://help.sap.com/S4_OP_DM)
- SAP S/4HANA Cloud: [http://help.sap.com/S4\\_CE\\_DM](http://help.sap.com/S4_CE_DM)

And Community webpages:

- [SAP Community](#)
- [SAP S/4HANA Cloud Customer Community](#)
- [SAP S/4HANA migration cockpit community](#)

There are also some SAP Notes and KBAs where you can find a collection of the most relevant information for the SAP S/4HANA migration cockpit and SAP S/4HANA migration cockpit - Cloud:

## Collective SAP Notes for Migration Content CA-GTF-MIG:

- Collective SAP Note and FAQ for SAP S/4HANA Migration Cockpit (Cloud) [2538700](#)
- Collective SAP Note and FAQ for SAP S/4HANA Migration Cockpit (on premise) [2537549](#)

### Pre-filled migration templates:

- w/ SAP S/4HANA Migration Cockpit (Cloud) - Sample data migration templates [2470789](#)

## Central SAP Notes for Migration Cockpit Tool CA-LT-MC:

w/ SAP S/4HANA Migration Cockpit (Cloud) - Sample

- Migration Cockpit & SLT on S/4HANA On-Premise Edition 1809 [2594002](#)
- Migration Cockpit & SLT on S/4HANA On-Premise Edition 1709 [2475034](#)
- Migration Cockpit & SLT on S/4HANA On-Premise Edition 1610 [2376533](#)

In addition, to get an introduction to data migration with SAP S/4HANA, you can sign-up to our [Open SAP Course - Migrating Your Business Data to SAP S/4HANA – New Implementation Scenario](#)

### ➤ Can I leave the guided procedure (files & staging tables) during the data transfer? What is the use of the “Start Transfer” button? What is the “Restart Transfer” Button for?

When you choose *Start Transfer* for a migration object, the system displays a guided procedure for the migration process. Depending on the volume of data to be transferred, the migration process may take some time. If you know, for example, that the step *Execute Import* will run for a considerable amount of time, you may want to log off from the system and then log back on at a later point in time. If you do this, the step will continue to run in the background. When you log back on to the system, choose the *Start Transfer* button to display the guided procedure again and view the current status of the transfer.

There is a *Restart Transfer* button available in the guided procedure when using staging tables. You use this button to reset the status of the transfer. Note that you will have to start again from the first step of the transfer process (Validate Data) once you start the transfer again.

### ➤ How can I insert and update data records?

If you cannot insert or update data records or you get the warning message: “Source record already transferred to target system”, see the following SAP Note: [2650201](#)

### ➤ How can I improve the performance of the data transfer?

For the migration approaches *Transfer Data Using Files* or *Transfer Data Using Staging Tables*, you can improve the performance of the transfer by increasing the number of data transfer jobs. In the case of the file approach, you can use multiple files and transfer the data for these files in parallel.

On the *Migration Object Details* screen, there is the field *No. of Data Transfer Jobs*. Data transfer jobs are responsible for transferring data to the target SAP S/4HANA system. The default number of data transfer jobs is 1.

For more details about Improving the performance of the transfer, see the SAP Help Portal:

- [SAP S/4HANA Migration Cockpit – Transferring Data to SAP S/4HANA Using Files – Transferring Data to SAP S/4HANA](#)
- [SAP S/4HANA Migration Cockpit – Transferring Data to SAP S/4HANA Using Files – Transferring Multiple Files in Parallel](#)

### **Note:**

In SAP S/4HANA Cloud the number of available batch processes is normally ~ 8 to 10 per instance.

If you try to run several migration objects in parallel using multiple migration projects the system will run out of batch job processes and will queue the jobs. The result will be that your migration run seems to stick at a low percentage level because jobs are waiting in the queue to be executed. Thus, you should be careful about not running many batch jobs in parallel as this will not improve the performance.

For the migration approach *Transfer Data Using Files*, you can achieve parallel loading by splitting the xml template into multiple files and uploading these files in multiple identical projects. However, you must ensure there are enough background jobs available. For detailed information about SAP S/4HANA migration cockpit - Parallelization of XML file loads you can check SAP Note: [2878945](#)

➤ **Is the migration of texts/descriptions for migration objects in multiple languages in the SAP S/4HANA migration cockpit possible?**

The documentation of the migration object contains the information about the language in which the text is saved. Refer to SAP Note [2671476](#) to find out when the migration of text/description in multiple languages is not possible.

➤ **What can I do if I have specific requirements that are not covered by the migration objects?**

If the available migration objects do not cover your requirements, you can create user-defined migration objects using the SAP S/4HANA migration object modeler (transaction LTMOM). If a function module is available, you can assign standard SAP APIs to these objects. If not available, you can create your own function module to populate the target structure including your custom field enhancements. See SAP Note [2590165](#) - SAP S/4HANA migration cockpit - creating your own function modules.

## TRANSFER DATA USING FILES

➤ **Why can't I change the content of an uploaded file in the SAP S/4HANA migration cockpit itself?**

For data protection reasons this functionality was switched off for Cloud release as of 1708 and for on-Premise Release as of 1709. It is not possible to do changes directly in the SAP S/4HANA migration cockpit - the file or delta file must be downloaded. The changes should be made in this file, and after that, the file needs to be uploaded again.

➤ **What if the XML template is corrupted after inserting or deleting data?**

The XML structure of the file should never be changed, as this prevents the file upload. However, deleting an "entry" of a field should not corrupt the format, only if the values in the cells are deleted and not the cells itself. When copying data to an XML template, always right-click the relevant cell and choose the paste option 'Values (V)'. Avoid pasting data that includes formatting and formulas into the migration template, as this will corrupt the structure of the XML migration template.

If the XML file gets corrupted (that is, you get error messages while trying to upload the file) and cannot perform the migration then, the best option would be to download a new template and copy your data to this new template.

To avoid corrupted XML templates SAP recommends the following:

- a. Read the introduction and review the field list before starting to fill the xml template
- b. Unhide and read the tooltips (line 8)
- c. Copy and paste values only using the following options:
  - Paste option then Values (V) within XML file
  - Paste special and then choose Text from somewhere else
  - Paste option then keep text only from notepad/text editor
- d. Do not make any changes to the structure of the migration template, specifically:
  - Do not delete, rename or change the order of any sheet in the migration template;
  - Do not change the formatting of any cells;
  - Do not use formulas;
  - Do not hide, remove, or change the order of any of the columns in the migration template.

**Note:** The information above is valid for all migration objects. For more details refer to KBA [2692715](#) - Migration Cockpit: How to correctly fill data into XML template.

➤ **What should I do if the downloaded XML file has no file extension?**

Depending on your internet browser there is no extension. After "Download", you must add the extension .xml to the downloaded file manually.

➤ **What is the maximum size for an uploaded file?**

- For SAP S/4HANA Cloud:

The default size limit for each uploaded XML file is 100MB. If required, you can zip several files together. The combined size of all the XML files to be added to the zip file must not exceed 160MB. The limit size for a zip file is still 100MB.

- For SAP S/4HANA (On-premise):

The default size limit for each uploaded XML file is 100MB, however, it depends on parameter *icm/HTTP/max\_request\_size\_KB*, which controls the size of the http request. You can increase the size limit for each uploaded XML file to 160MB by changing the system parameter (*icm/HTTP/max\_request\_size\_KB*), which has default value 102400 kb (100MB). If required, you can zip several files together. The combined size of all the XML files to be added to the zip file must not exceed 160MB. The limit for the zip file is still 160 MB with the adjusted system parameter.

For more details see KBA [2719524](#) - SAP S/4HANA Migration Cockpit: XML template size limits.

➤ **Where can I find information on the corresponding SAP table/technical field name for each field in the XML Template?**

In the Excel template file, there is the possibility to unhide rows 4-6. In addition, in the 8th row, the field names in SAP S/4HANA can be viewed, as well as additional information such as the expected format (for example, the data type and length).

## TRANSFER DATA USING STAGING TABLES

➤ **What product release the Staging Table approach is available and can be used?**

- SAP S/4HANA: Available since 1709 FPS01
- SAP S/4HANA Cloud: Available since 1808

**Note:** To avoid issues with the pre-delivered data migration objects and to have installed all relevant SAP Notes and features, we highly recommend upgrading your system to FPS02 before using the SAP S/4HANA migration cockpit. For more information, refer to KBA [2733253](#) - FAQ for SAP S/4HANA migration cockpit - Transfer option: Transfer data from staging tables.

➤ **Which database is supported for the migration approach Transfer Data Using Staging Tables?**

For the approach Transfer Data Using Staging Tables, the following databases are supported:

- SAP S/4HANA (on premise): SAP HANA DB
- SAP S/4HANA Cloud: SAP HANA DB via SAP Cloud Platform (DBaaS)

**Note:** Other databases are not supported.

➤ **I don't see the option "Transfer Data from Staging Tables" in the SAP S/4HANA migration cockpit if I create a new project with Migrate your Data (Cloud) app. Do I need to do something to get this option visible?**

Yes. The staging option will be only visible if the non-standard scope item Data Migration to SAP S/4HANA from Staging (2Q2) is activated.

Follow the procedure in the area Reason for exclusion from default activation on the SAP Best Practices Explorer scope item Web page: [Data Migration to SAP S/4HANA from Staging \(2Q2\)](#)

You must request the scope item activation for 2Q2 via ticket on component *XX-S4C-OPR-SRV*

➤ **How are staging tables generated?**

Staging tables are generated in /1LT/DS namespace once a migration object is created in a migration project (using the SAP S/4 HANA migration cockpit or Migrate your Data app) and the runtime object is generated. When you open a migration object, staging tables are automatically created for the migration objects. For each source structure of a migration object a separate staging table is created. For more information, refer to the SAP [Help Portal](#).

➤ **What naming convention do the generated staging tables follow?**

Staging tables follow the naming convention: /1LT/DS<sys-id><consecutive number>. Below is an example of a generated staging table for object Work center (SIF\_WORK\_CNTR) and structure S\_KAZY:

Staging Table's Technical Name: /1LT/DSQKX000928

Table description: Z\_<Alias = technical Object name without SIF\_>\_<Mass transfer ID>:<structure name>

Example of table description: Z\_WORK\_CNTR\_U02:S\_KAZY

**Note:** From 1809 FPS0 there is now a mapping table '/1LT/DS\_MAPPING', which is provided in the same schema where the staging tables are generated. This table stores mapping information about the migration object, the source structure and the staging table name. You can use this table to determine the staging table names after you copy a project from a quality system to a production system and then use these names in your scripts or applications that populate the staging tables with data.

➤ **What kind of database tables are used for staging tables and what are the limitations?**

Staging tables are tables on an SAP HANA database.

- SAP S/4HANA (On-Premise): In SAP S/4HANA the tables can be on a secondary database.
- SAP S/4HANA Cloud: In SAP S/4HANA Cloud the tables are created on a secondary database on SAP Cloud platform. They are not created on the primary database of your SAPS/4HANA Cloud system.

**Note:** If you create a secondary database connection in the target system itself, you must use a different schema than the schema that SAP S/4HANA uses. Also note that the data cannot be viewed or changed using transaction SE16. For more information refer to KBA [2733253](#) - FAQ for SAP S/4HANA migration cockpit - Transfer option: Transfer data from staging tables.

➤ **How can I fill the staging tables?**

To fill the staging tables, you can either use ABAP code or any ETL tools from a third party or from SAP (for example SAP Data Services, SAP HANA smart data integration (SDI)). You can also use SAP HANA Studio to fill the tables with data.

There are several blogs listed below to show different methods to load data into the staging tables:

- [Part 1: SAP S/4HANA migration cockpit – Migrating data using staging tables and methods for populating the staging tables](#)
- [Part 2: SAP S/4HANA migration cockpit – Using SAP Data Services to load data to the staging tables](#)
- [Part 3: SAP S/4HANA Migration Cockpit – Using SAP HANA Smart Data Integration \(SDI\) to load data to the staging tables](#)
- [Part 4: SAP S/4HANA migration cockpit – Using SAP HANA Studio to load data to the staging tables](#)

**Note:** The table definition is only visible by using transaction SE11. The tables and data itself are created in a secondary SAP HANA database. It therefore makes no sense to fill the tables in your primary SAP HANA database using the same schema as SAP S/4HANA or try to see the data in your SAP S/4HANA using the Data Browser (transaction SE16). If you see data in your staging table by using transaction SE16, then you must have done something wrong.

➤ **Is a license required to use the approach Transfer Data Using Staging Tables?**

If you run your SAP S/4HANA system using an SAP HANA, enterprise edition, you can create a separate schema for the staging tables there and access the staging tables on DB layer directly by any ETL tools.

If you run your SAP S/4HANA system with a “SAP HANA, runtime edition for applications & SAP BW” (HANA REAB), the staging tables must be in a separate SAP HANA database installation with the respective license. For example, if you run a separate system using an SAP HANA, standard edition for a side-car scenario, you can create the schema there.

If you do not have any system with adequate SAP HANA use rights available in your landscape, you can contact your responsible sales contact for SAP HANA license details.

➤ **You might check whether SAP HANA, express edition (available for free up to 32GB of RAM) is suitable for your needs. Must I pay attention to something if I fill the data directly in the staging tables?**

Yes. If you fill the data directly in the SAP HANA database, you must take care on the default values and the correctness of the values of some data types. For more details see KBA [2733253](#) - FAQ for SAP S/4HANA migration cockpit - Transfer option: Transfer data from staging tables.

➤ **Are there any restrictions when creating source/sender structure key fields for my own objects?**

Yes, the following restriction applies:

Key fields of the header/root structure must not be an SQL reserved word such as END, FROM, ORDER, SET, START, and so on. This is because the Migration object modeler generates OPEN SQL statements into ABAP code of the function group that is used to load the data.

For a list of reserved Words in SAP HANA see the SAP HANA SQL Reference → Reserved Words on the [SAP Help Portal](#)

➤ **Is it possible to delete, refresh, select, and transform the data in the staging tables?**

Yes, you can adjust the data in the staging tables. The SAP S/4HANA migration cockpit sets a freeze trigger once you start the validation of data. This freeze trigger can be reset. Instructions are contained in application help on SAP Help Portal:

- [SAP Help Portal \(Working with Staging Tables\)](#)
- [SAP Help Portal \(Transferring Data to SAP S/4HANA\)](#)

In addition, some SAP tools/products such as SAP Data Services or Smart Data Integration that can be used to populate the staging tables, provide data transformation and cleansing capabilities. See the following links to these products/tools:

- [SAP Help Portal \(SAP HANA Smart Data Integration and SAP HANA Smart Data Quality\)](#)
- [SAP.com \(SAP Data Services\)](#)

For specific questions or more detailed information about these SAP Tools, contact your sales representative.

➤ **How do we feed the information in the staging tables from our SQL DB? Do we need a specific view/stored procedure to be created in our SQL source?**

It depends on the license. Technically, it's possible to write directly into staging tables. Since the ID of the staging table will be different in the development and quality systems, we offer a mapping table /1LT/DS\_MAPPING as of 1809. In addition, you could use other SAP Tools such as Data Services or SDI to

feed the information in the staging tables from other databases such as SQL DB. For more information about SAP tools such as SAP Data Services or SDI, contact your SAP account team representative.

➤ **Is the SAP HANA Studio free?**

SAP HANA server software and tools can be used for several SAP HANA platform and options scenarios as well as the respective capabilities used in these scenarios. The availability of these tools is based on the available SAP HANA licenses and the SAP HANA landscape, including the type and version of the backend systems the SAP HANA administration and development tools are connected to. Several types of licenses are available for SAP HANA. Depending on your SAP HANA installation license type, some of the features and tools described in the SAP HANA platform documentation may only be available in the SAP HANA options and capabilities, which may be released independently of an SAP HANA Platform Support Package Stack (SPS). If you have additional questions about what your license provides or want to discuss licensing prices and features available in SAP HANA options, please contact your SAP account team representative.

➤ **Do we need specific knowledge to use the SAP HANA Studio?**

Depending on the use case (for example if you are planning use the SAP HANA Studio Database Development feature), you might need some specific knowledge for such particular use cases. For more information about the SAP HANA Developer Guide for SAP HANA Studio, see:

- [SAP HANA Developer Guide for SAP HANA Studio](#)

➤ **Can we use multiple data transfer jobs for each migration object?**

Yes. Using multiple data transfer jobs for each migration object is possible as of release 1809. For more information, see the SAP Help Portal: [SAP S/4HANA Migration Cockpit - Transferring Data to SAP S/4HANA - Improving the Performance of the Transfer](#)

**Note:** In order to transfer data to the target SAP S/4HANA system, the system divides the content of the staging tables into portions, which are transferred by the data transfer jobs. For the initial phase of the Validation step, only one data transfer job will be used. Once this initial phase is complete, the system will use the number of jobs specified in the Max. Data Transfer Jobs field for the remainder of the Validation step, and for the remaining steps. Depending on the amount of data, increasing the number of data transfer jobs may not have any effect.

➤ **Are there any limitations regarding data migration content (On-Premise) using staging tables?**

Starting with SAP S/4HANA 1709 FPS02 and higher, there is only one object known with known limitations:

- Internal Order (SIF\_INTORDER) - for details see SAP Note [2767336](#) - SAP S/4HANA Migration Cockpit: Errors using staging functionality with object Internal Order
- If you are using SAP S/4HANA 1709 FPS01, check SAP Note [2608495](#). Especially, if you get error message CNV\_DMC\_WDA090: "Error while reading data from the staging table...."

➤ **For the migration approach "Transfer Data Using Files" there is a retention time parameter that can be set. What happens with the data when I use the approach "Transfer Data Using Staging Tables"?**

For the migration approach "Transfer Data Using Files", there is a retention time parameter due to the new data protection regulations. This is different for approach "Transfer Data Using Staging Tables" as with this approach, customers have access to the database, meaning that the customer is responsible for taking care of the data. There is no automatic deletion process. We recommend deleting the data from the HANA database after the migration project is finished and data has been successfully migrated.

## TRANSFER DATA DIRECTLY FROM SAP SYSTEM

### ➤ From which product release is the direct transfer approach available?

The approach "Transfer Data Directly from SAP System" is available with SAP S/4HANA 1909 (released 20.09.2019). It is not available for releases lower than 1909.

### ➤ What are the main functions and features of the application?

As of 1909 release, the approach "Transfer Data Directly from SAP System" has the following functionality:

- Access source system database directly
- Transfer data from SAP source system to target SAP S/4HANA system
- Supports data migration scenarios from other applications, for example from SAP Apparel and Footwear (SAP AFS) to SAP S/4 Fashion and Vertical Business, SAP EWM to Decentralized EWM.

**Note:** Functions, features and migration scenarios for the Direct Transfer might change from release to release, therefore, we strongly recommend seeing the latest information in the following sources:

- Overview presentation: [SAP S/4HANA Migration Cockpit - Migrate your Data to SAP S/4HANA](#)
- SAP Help Portal - [Transferring Data Directly from an SAP System](#).

### ➤ What are the technical preconditions / prerequisites for the approach "Transfer Data Directly from SAP System"?

For information about prerequisites and preconditions, refer to:

- SAP Help Portal: [Transferring Data Directly from an SAP System](#)
- *Installation Guide for S/4HANA (On-Premise only)* available under: [https://help.sap.com/viewer/p/SAP\\_S4HANA\\_ON-PREMISE](https://help.sap.com/viewer/p/SAP_S4HANA_ON-PREMISE) → <Filter-Version> Product Documentation → Installation Guide → 7. Installation Follow-Up Activities

### ➤ What migration scenarios are possible with the approach "Transfer Data Directly from SAP System"?

As of 1909 version, the following migration scenarios are available:

- Extract data from ERP system to SAP S/4HANA system
- Extract data from SAP Apparel and Footwear (AFS) to S/4HANA Fashion and Vertical Business
- SAP EWM to Decentralized EWM

**Note:** Consider that new migration scenarios might be available for new releases or feature packs. For the latest information about the available migration scenarios, see the SAP Help Portal - [Transferring Data Directly from an SAP System](#).

### ➤ What are the new features for the SAP S/4HANA 1909 version for the approach "Transfer Data Directly from SAP System"?

As of [SAP S/4HANA 1909](#), you can:

- Change filter or skip criteria
- Enhance existing migration objects
- Create custom migration objects
- Perform parallel processing for a migration object

**Note:** New or enhanced features might be available for new releases, therefore, we recommend you check the current information for the Direct Transfer in the SAP Help Portal - [Transferring Data Directly from an SAP System](#) and SAP Note [2747566](#).

➤ **Where can I find more information about the approach "Transfer Data Directly from SAP System"?**

For more information about the migration approach "Transfer Data Directly from SAP System", see the following resources:

- Landing Page: [Data Migration - SAP S/4HANA migration cockpit](#)
- SAP Help Portal: [Transferring Data Directly from an SAP](#)
- SAP Note [2747566](#) - SAP S/4HANA Migration Cockpit: Composite Note for Transfer Data Directly from SAP System
- Direct Transfer blog: [SAP S/4HANA Migration Cockpit – Transfer Data Directly from SAP System \(Direct Transfer\)](#)

In addition:

- You can get familiar with the approach with our [Direct Transfer video](#).
- For other information please visit our [Help Portal](#)

➤ **What are the recommendations for transforming data from several source systems in SAP S/4HANA?**

If your requirements involve migrating data from several ERP systems to SAP S/4HANA, you must create one project for each source system as one project can only have one RFC assigned. The disadvantage is that you might have to download/upload mappings as mappings are only known within one project.

➤ **How is the data throughput?**

This depends on the complexity and behavior of the API used in the respective migration object. Also, system parameters, such as the number of available batch jobs, have an influence on the throughput.

➤ **Can I view the data that has been selected?**

Yes. For the migration approach "Transfer Data Directly from SAP System", if you click on the number of selected items, you get to the instances lists.

➤ **How do we get access to a hands-on or demo system?**

Currently, there is no demo system available for the migration approach "Transfer Data Directly from SAP System". However, there is a short video that gives you an overview of the approach:

- Video: [Direct Transfer](#)

➤ **Can the approach "Transfer Data Directly from SAP System" migrate historical data?**

No, the migration approach "Transfer Data Directly from SAP System" cannot migrate historical data. A new implementation approach only migrates data which is necessary to start from scratch. From a technical point of view, taking over historical data would mean to transfer data on database level. The SAP S/4HANA migration cockpit only works with standard APIs which follow the application logic in order to guarantee consistent data in the target system.

➤ **If I decide to change the selection criteria for a migration object in transaction LTMOM and then repeat the selection, the selection criteria are not applied. Does this mean that the selection criteria can only be applied if I haven't already executed the Selection step for the object?**

This currently works as designed. Only new items will appear in the instance list if you run the selection again. Old entries are not touched. We plan to have a reset functionality available in Fiori for future releases. For the current version 1909, you can use report CNV\_PE\_MC\_DEL\_ITEMS.

➤ **How many migration objects are already available?**

There are 100+ objects available with 1909.

For a list of current available migration objects for the approach "Transfer Data Directly from SAP System" refer to the SAP Help Portal: Migration Objects for SAP S/4HANA [Available Migration Objects](#)

- **Is there any documentation for the SAP S/4HANA tables filled by the BAPIs used by the approach "Transfer Data Directly from SAP System"?**

We use the standard SAP BAPIs. In the SAP S/4HANA migration cockpit object documentation, the BAPI used is mentioned. Please refer to the standard documentation of the standard BAPI.

- **Is it possible to migrate delta records using the approach "Transfer Data Directly from SAP System"? For example, if I have already migrated data from the source for a certain object.**

This migration approach is designed for a New Implementation, not for a delta migration or perpetual migration. In case of several selections, the system recognizes new records and adds them into the items to be migrated. The Migration Cockpit does not delete or change items which have already been selected. In addition, you must consider that a new selection does not update fields for records which have already been selected.

- **Is there a way to monitor an ongoing migration using the approach "Transfer Data Directly from SAP System"? It is useful especially for the large amount of data.**

This approach uses a Fiori UI which provides monitoring functions. In the Notifications window, you can find messages for each migration object and can filter them by priority and/or activity.

- **How can I confirm all mapping entries when using the approach "Transfer Data Directly from SAP System"?**

On the Mapping Tasks screen, select all "Mapping Tasks" using the check box. Then click on the button "Confirm".

For more information, see SAP Help Portal - [Transferring Data Directly from an SAP System - Mapping Tasks](#)

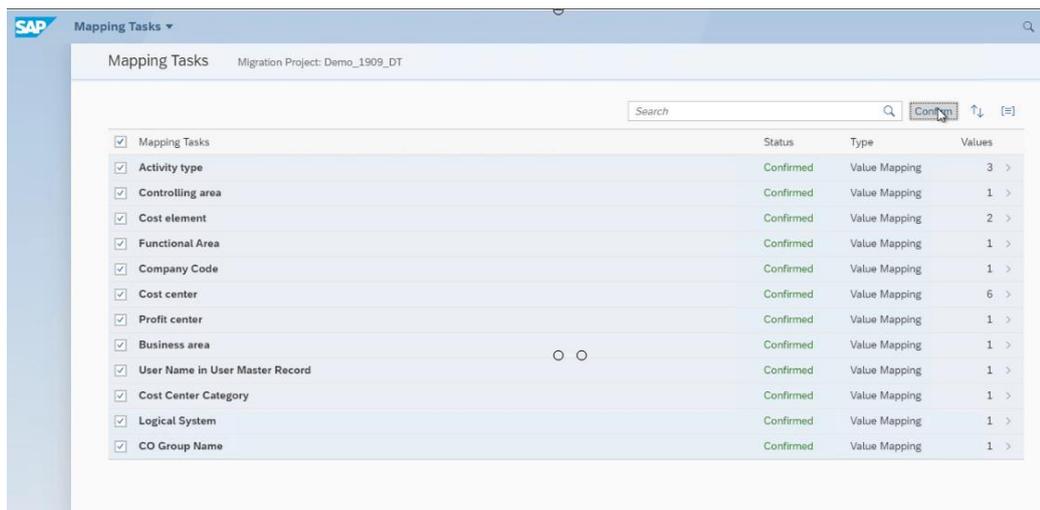


Figure 2: Mapping Tasks confirmation

- **Are there any limitations with regard to mapping, for example a maximum number of records that can be uploaded?**

There are no limitations.

- **Is data profiling possible before the conversion?**

For the approach "Transfer Data Directly from SAP System", the SAP S/4HANA migration cockpit uses predefined selection criteria - company codes for the ERP+AFS scenario, and Business Warehouse Numbers for EWS. Data is fetched as it is stored in the backend system. There is no integrated data quality functionality.

➤ **Can the SAP S/4HANA Migration Cockpit delete data that has already been migrated?**

The SAP S/4HANA migration cockpit does not provide deletion functionality for data that has already been migrated. The migration performed using the SAP S/4HANA migration cockpit creates application data in the target system. If you need to delete migrated data, the normal application logic applies. For example, you can delete master data with application transactions if there is no dependent data. Transactional data such as open items cannot be deleted; they can only be reversed by application transactions.

**MIGRATION OBJECTS**

➤ **Which migration objects are available for which release?**

You can find information about the available migration objects for the SAP S/4HANA migration cockpit in SAP Note: [2596400](#) - Migration objects available in the Migration Cockpit. Additionally, for a comparison of Migration Object templates you can refer to the SAP Help Portal: [SAP S/4HANA – Release Comparison of Migration Object Templates](#).

Also, you can find more information under the following short links:

For SAP S/4HANA:

- [http://help.sap.com/S4\\_OP\\_MO](http://help.sap.com/S4_OP_MO)

For SAP S/4HANA Cloud:

- [http://help.sap.com/S4\\_CE\\_MO](http://help.sap.com/S4_CE_MO)

In addition, you can access the Migration Object documentation on the SAP Help Portal:

For SAP S/4HANA:

- <https://help.sap.com> → SAP S/4HANA → Data Migration → Migration Objects for SAP S/4HANA → [Available Migration Objects for SAP S/4HANA](#)

For SAP S/4HANA Cloud:

- <https://help.sap.com> → SAP S/4HANA Cloud → Data Migration → Object Related Information → [Migration Objects for SAP S/4HANA Cloud](#)

Note: On the SAP Help Portal, you can switch between different releases by using the appropriate drop-down list:

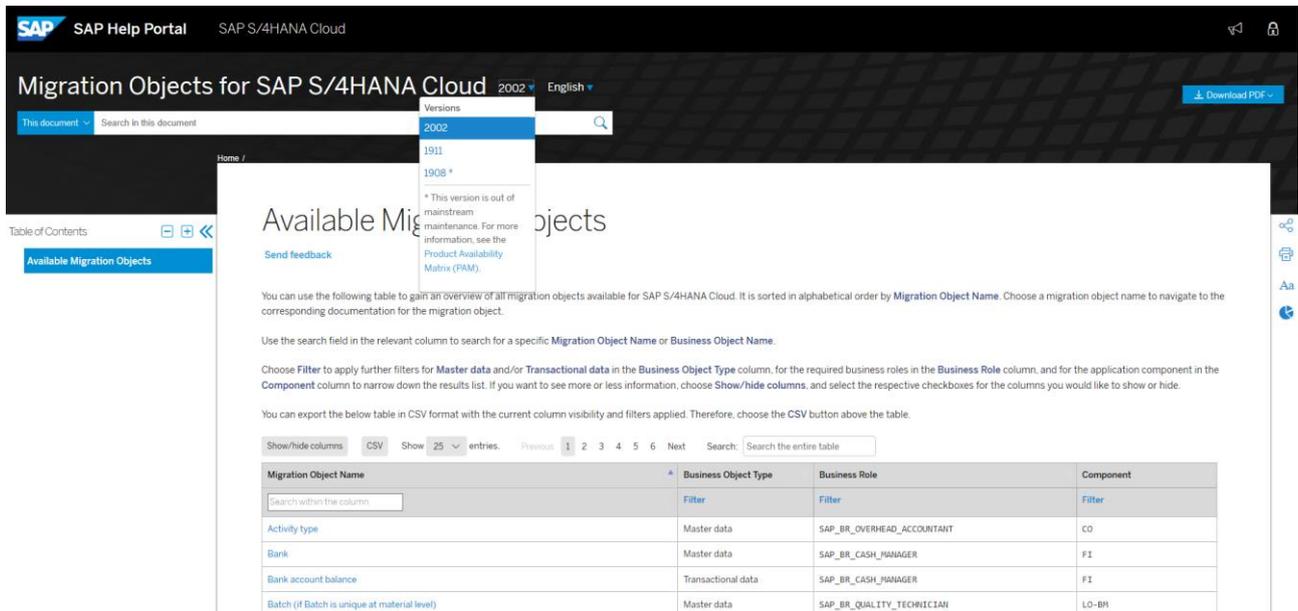


Figure 3: Switching between different SAP S/4HANA releases

➤ **What are the restrictions and extensibility using the pre-delivered migration objects of the SAP S/4HANA migration cockpit in SAP S/4HANA on-premise?**

For the detailed description, refer to the following SAP Notes.

- [2481235](#) - SAP S/4HANA Migration Cockpit (on-premise) - restrictions and extensibility of pre-delivered migration objects
- [2515151](#) - Cannot find migration objects to use, or fields which you want to migrate cannot be found in any migration objects, by using SAP S/4HANA Migration Cockpit
- [2608495](#) - SAP S/4HANA Migration Cockpit: Errors using staging functionality w/ pre-delivered data migration objects in on-premise release 1709 FPS1

➤ **Is there a collection of SAP Notes related to the SAP S/4HANA migration cockpit content with more detailed information about the migration objects?**

You can find a collection of SAP Notes/KBAs about SAP S/4HANA migration cockpit content (migration objects) in SAP Note: [2537549](#) - Collective SAP Note and FAQ for SAP S/4HANA migration cockpit (on-premise).

In addition, you find more detailed information about the migration objects in the documentation for each object. For more information about how to access the documentation for migration objects in S/4HANA Migration Cockpit see SAP Note: [2609932](#).

➤ **The preconfigured migration objects do not cover all our requirements. Can I extend the existing objects, for example by adding additional fields?**

In the On-Premise environment, we provide a modeling functionality for the SAP S/4HANA Migration Cockpit – the SAP S/4HANA Migration Object Modeler. You can use the Migration Object Modeler to extend existing migration objects, but you can also create your own migration objects if required.

➤ **How can I request that missing objects will be developed?**

If you would like to request a feature or a new migration object that is not yet available, you could do this through the SAP Customer Influence for SAP S/4HANA Cloud (all versions). For detailed steps and information see SAP KBA [2676589](#) - Request for new features in SAP S/4HANA Data Migration Content.

For On-Premise please send an e-mail to <mailto:SAP S/4HANA Migration Cockpit>

➤ **Who can help me with the development of customer-specific objects?**

Support with the development of customer-specific objects is considered a consulting request. For consulting requests, you can contact the DMLT consulting team. Please address all consulting inquiries to DL DMLT Global Customer Engagement: [sap\\_dmlt\\_gce@sap.com](mailto:sap_dmlt_gce@sap.com)

Furthermore, you can find more information about SAP S/4HANA Movement at the following link:

- [Join the SAP S/4HANA Movement](#)

For more information about “What is Support – What is Consulting: On Premise Solutions” see SAP Note: [83020](#).

➤ **How can I check the correctness of migrated object?**

In your migration project, you can see the number of successfully migrated instances. We recommend using standard SAP reports to compare data in the source and target systems.

➤ **Which version of the SAP S/4HANA migration cockpit supports the creation of custom objects? Do we need any specific permissions?**

The SAP S/4HANA migration object modeler is available from 1610 FPS02. To create new or custom migration objects, you use the Migration Object Modeler (transaction LTMOM).

Note the following prerequisites (authorization roles required):

- `SAP_CA_DMC_MC_USER` and `SAP_CA_DMC_MC_DEVELOPER`

➤ **I cannot find a migration object or field that I want to migrate, what can I do?**

If you are facing this issue, please see the following SAP Note:

- [2515151](#) - SAP S/4HANA Migration Cockpit: Migration objects or fields which you want to migrate cannot be found

➤ **What does the suffix "deprecated" mean for migration objects?**

For detailed information, see the following SAP Note:

- [2698032](#) - SAP S/4HANA Migration Cockpit: Migration Objects Deprecate

➤ **What does the suffix "restricted" means for migration objects?**

- The suffix "restricted" indicates that the usage of the object is limited.
- You must always read the documentation for the migration object before using such an object.

➤ **How do I migrate Human Capital Management (HCM) objects? How does a solution for SuccessFactors look like?**

Currently, the SAP S/4HANA Migration Cockpit does not provide HCM migration objects for any migration approach (neither for SAP S/4HANA nor for SAP S/4HANA Cloud) . Furthermore, there are no HCM migration objects planned on the actual roadmap for 2020 for the SAP S/4HANA migration cockpit. Based on customer feedback, SAP has now taken the decision to accelerate the timeline for the new "SAP Human Capital Management for SAP S/4HANA, on-premise edition" (HCM 4 S/4) solution, giving customers more time to orchestrate their move to SAP S/4HANA. The new offering will be made available in a first release with SAP S/4HANA 2022. At this point of time, the recommendation is to use a system conversion (for example for HCM standalone systems) or moving the data on table level using the selective data transition (formerly SLO projects with customer-specific solutions). The migration to SuccessFactors is not covered by the SAP S/4HANA migration cockpit.

➤ **Is the migration of G/L accounts possible?**

For SAP S/4HANA Cloud, it is currently not possible to migrate G/L account master data into.

For SAP S/4HANA, Migration object G/L account master was first delivered with release 1809.

For more information, refer to the following SAP KBAs:

- [2682466](#) - Migration cockpit: Cannot find migration object for GL account data
- [2853964](#) - Migration Cockpit: Collective KBA for G/L Open Item or G/L Balance or FI AP Open Item or FI AR Open Item

## SAP S/4HANA MIGRATION OBJECT MODELER

➤ **What can be done with the SAP S/4HANA Migration Object Modeler?**

The SAP S/4HANA migration object modeler is part of the SAP S/4HANA migration cockpit and is available since SAP S/4HANA 1610 FPS02. It is available only for the SAP S/4HANA (On premise).

The SAP S/4HANA migration object modeler is designed to easily integrate custom objects and enhancements. It is available for all three migration approaches (file, staging tables and direct transfer). You can access the SAP S/4HANA migration object modeler by using transaction LTMOM.

For more information about the Migration Object Modeler, see [SAP Help portal](#) - SAP S/4HANA Migration Object Modeler and our Learn Demo – [Working on a migration object with the Migration Object Modeler](#).

➤ **Is the Migration Object Modeler available for SAP S/4 HANA Cloud?**

In SAP S/4HANA Cloud the migration object modeler is not available as no additional changes to migration objects are allowed. For cloud customers, SAP takes care of all migration objects - they come out of the box. If cloud customers add fields with the help of the extensibility framework, please check the [SAP Documentation](#) and SAP Note [272610](#) - Migration Cockpit: Support of custom fields (in-App extensibility).

➤ **Is it possible to add a field in a file or in a staging migration object with transaction LTMOM?**

It is possible to adapt the delivered content for migration objects, for example by adding a field to the template file and mapping the field from the source structure to the target structure with transaction LTMOM. A prerequisite is that the used function module also supports the target field.

➤ **If LTMOM is used for adding fields, can the xml template be generated with the additional fields?**

Yes, if you add additional fields with the Migration Object Modeler (transaction LTMOM) the XML template file will be updated automatically.

➤ **Is it possible to create custom migration objects using the migration object modeler?**

Starting with 1610 FPS02, you can create completely new objects using the Migration Object Modeler.

For more information about creating an own migration object for the SAP S/4HANA migration cockpit using the approaches "Migrate Data Using Files" or "Migrate Data Using Staging Tables" with the migration object modeler see:

- SAP Note [2852819](#) - SAP S/4HANA Migration Cockpit - Creating a New Migration Object with the Migration Object Modeler (file/staging)
- User guide: [SAP S/4HANA Migration Cockpit: Creating a New Migration Object with the Migration Object Modeler](#)

➤ **Why can't I change the field length in change mode using LTMOM?**

If you create a migration object from template, there is still a link to the original template available. You can add additional fields, but you cannot change the delivered fields. From time to time, SAP updates migration objects to ensure that they accurately reflect the current state of the SAP S/4HANA system. If a migration object must be updated, the system will prompt you to do so.

If you copy a migration object the link to the original migration object is not available anymore and no updates to the delivered content will be reflected in the migration object (updating the migration object is not possible). In this case, the migration object is like a custom migration object. You can also change the source fields, which have been delivered by SAP.

➤ **What do I need to consider, when I want to create my own function module and assign it to a custom migration object to transfer data to SAP S/4HANA (file or staging approach)?**

The requirements for creating your own function modules are outlined in the attachment to SAP Note [2590165](#) - SAP S/4HANA Migration Cockpit - Creating Your own Function Modules.

➤ **How can I add a missing field in transaction LTMOM under "Target structures" (files or staging approach)?**

You cannot modify the target structure if you are using a standard migration object. The target structure depends on the underlying API. If you need additional fields in the target structure that are not available in the API, you can build your own function module and use this function module in your own created migration object.

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