



# DATA MIGRATION

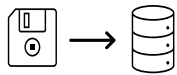
by Stretch

# WHY DATA MIGRATION?

*Data migration is the process of selecting, preparing, extracting, and transforming data and permanently transferring it from source to target.*

There are **four main scenarios** which needs the data migration:

## Storage Migration



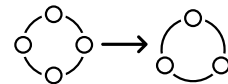
## Database Migration



## Application Migration



## Business Process Migration



This document focuses mainly on application and business process migration scenarios. There are different business triggers to these two data migration scenarios like below.

- ERP Transformation (Application migration)
  - Implementing new ERP application or moving from old to new ERP system. Example: SAP ECC -> SAP S/4 HANA.
- Master Data Management (Business Process migration)
  - Defining master data management. Example: central master data rather than decentralized master data.

# DATA MIGRATION: **WHAT** IT CONTAINS

The data migration process is divided into six different phases, each phase containing multiple activities. Together they secure a full coverage of the data migration efforts. One can pick the phases and activities needed depending on what migration type to be executed.

It is important to stress that not all migration projects are the same and therefore you should always go through the process carefully, ensuring nothing being left out or overseen.



Step	Short description
<b>Plan</b>	The 'up front' tasks, like refining the overall data migration approach, defining the migration strategy, and setting the high-level migration timeline.
<b>Prepare</b>	Preparation activities connected to the data migration, such as data modelling, data profiling, and setting the data quality framework.
<b>Develop</b>	Development and unit testing of programs for data extractions, transformations, and data loads (ETL).
<b>Test</b>	Testing and validating ETL-programs, manual load activities, and actual data. Both individually and in an end-to-end process. Stress test and dress rehearsal executed.
<b>Deploy</b>	Execution of full migration process to the production environment including data validation. Handover of business process and supporting documentation.
<b>Run</b>	Hypercare and support.

# DATA MIGRATION: **HOW** IT IS BEING DONE



## 1. Plan

Deliver an overall project plan and define the roles and organization needed for the execution (data stewards/data owners).

*Activities:* Data Analysis  
Business Process Analysis  
Landscape Analysis  
Data Governance  
Scope Definition  
Staffing and Time plan

## 2. Prepare

Go more into the details of the data. Break it down, plan for execution and set rules for the data quality assurance. Perform Proof of concept.

*Activities:* Data Modeling  
Data Profiling  
Data Mapping, GAP Analysis  
Data Quality Framework  
Proof of concept  
Data Cleansing & Harmonize

## 3. Develop

Develop and unit test the ETL-programs.

*Activities:* Develop ETL-programs  
Unit Testing  
Data Migration Templates



## 4. Test

Execute repetitive testing of the ETL-programs and migration end to end process. Deliver a time plan including activities for the production load, after dress rehearsal has been performed.

*Activities:* Test & Validate ETL-programs  
Trial Runs  
Migr. Process Optimization  
Stress Test  
Dress Rehearsal

## 5. Deploy

Execute the actual production environment ETL-process. Get a full business validation sign-off of the data loaded. Hand over of "live" documents to the business.

*Activities:* Production ETL  
Full Data Validation  
Documentation Handover

## 6. Run

Supporting the business, ensuring a stable working environment and business experience.

*Activities:* Hypercare and Support



# DATA MIGRATION TERMS

## Data Analysis

Map and get an understanding of the current data repository. For example, identifying the data types, object quantities and known deficiencies.

## Business Process Analysis

Analysis of end-2-end business process to understand the data dependency and ways to improve the efficiency and effectiveness of business operations. It describes the processes involved, parties participating, information exchanged, and documents produced.

## Landscape Analysis

Map the system landscape based on where the data repository is used. Any interfaces to take into consideration? Retiring systems and/or interfaces as part of the data migration?

## Data Governance

Get an understanding of today's data policy, processes and roles and responsibilities (RACI).

## Scope Definition

Agree on the project scope. Validate and ensure the data scope in relation to defined timetable and activities is doable meeting the correct data quality. Define the to-be state at project close.

## Staffing and Time plan

Looking at the data scope, propose a time plan for the project and the resources needed.

## Data Modeling

In simple terms, data modelling is nothing but a process through which data is stored structurally. Data modelling is important because it enables organizations to make data-driven decisions and meet varied business goals.

## Data Profiling

Data profiling is the process of reviewing source data, understanding structure, content and interrelationships, and identifying potential for data projects.

## Data Mapping and GAP Analysis

Data mapping documents is the base for the ETL efforts, containing of source and target systems and the relation between the top- down till a field level. It also contains transformation rules, value lists, default values and more.

## Data Quality Framework

Data quality framework contains six dimensions: accuracy, completeness, consistency, timeliness, validity, and uniqueness.

## Proof of concept

Realization of a certain method or idea to demonstrate its feasibility, or a demonstration in principle with the aim of verifying that some concept or theory has practical potential.

# DATA MIGRATION SUCCESS FACTORS

Sometimes it can be hard to know where to start or what to focus on when standing in front of a data migration initiative. To help you navigate, here are six success factors to help you on your way.

- 1 Planning is key**

In order to get the most out of the data migration, you need to focus on time planning. There are quite a few steps to cover and if the process is being rushed or if you overlook important areas or steps, it will result in low data quality, inaccurate or faulty data or even incomplete data processes. If time is a narrow factor, then breaking down the data migration effort into smaller steps might be worth looking into.
- 2 It is not only about data**

A data migration effort is rarely about just moving data from one location to another. It almost always has a direct or indirect impact on the business processes. This will be apparent during the data and business process analysis.
- 3 Focus on to-be scenario**

If you put some focus on what you want out of your data and how you want your data management processes to look like once done, you will be able to plan for it accordingly, ensuring a more high-value product for your business.
- 4 Work actively with change management**

By involving the business at an early stage, working actively with change management, you will ensure a better understanding and cooperation between the business and the project as well as increase the acceptance of the to-be state. Another upside by engaging the business is that you start the training process in parallel.
- 5 Test, test... and test again**

By repetitively testing both the programs developed and the migration end to end process, you minimize the risk of getting unpleasant surprises once performing the production environment migration. Data trail load will enable you to see and rectify possible errors early in the process.
- 6 Bad data equals bad business**

Businesses rely on data to make informed decisions to gain business value, but if data is not correct, then it leads to poor decisions, less productivity, and others.



# MIGRATION TOOLS

There are several tools out there to help you out with the data migration ETL-process. Here are two we have experience working with. Please note that both are tools for data migrations to SAP only.

## WINSHUTTLE

Winshuttle Studio allows you to migrate your master data or transactional data into SAP ECC or S/4HANA and delegate migration tasks to the business users who are responsible for the data.

You can easily extract data from your SAP ECC systems directly into Excel, where you can clean and manipulate data – and validate it against SAP before uploading into the new S/4HANA system.

You can record transactions or use SAP tables or BAPIs to rapidly create robust and flexible data migration scenarios that can be used for ongoing maintenance activities long after you have gone live on S/4HANA.

## SAP S/4HANA MIGRATION COCKPIT

SAP S/4HANA migration cockpit allows you to migrate your master data and business data from SAP systems and non-SAP systems to SAP S/4HANA.

The SAP S/4HANA migration cockpit can help you to transfer data using files, using directly SAP ECC tables and using HANA staging tables.

It comes with pre-configured migration objects in all business process areas, which reduces the effort for migration project. If SAP delivered templates do not meet your need, then one can use migration object modeller to modify the migration objects.

INTERESTED IN KNOWING MORE?

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