

CNV-1049 EWM Storage Bin

Status	Approved
Owner	HASSAN-ext, Shamir
Stakeholders	

Purpose

The purpose of this specification is to define the **end-to-end approach** for migrating **Storage Bin Master Data** from the legacy SAP WM environment into **S/4HANA Extended Warehouse Management (EWM)**.

Storage bins are critical to warehouse operations as they represent the smallest managed physical units in a warehouse. They determine **where stock is stored**, how it is accessed, and which restrictions or capacities apply. Accurate migration ensures operational continuity post-cutover.

This document covers:

- Scope of bins to be converted.
- Extraction, transformation, cleansing, and loading approach.
- Detailed field-level mappings.
- Dependencies, error handling, validations, and governance rules.

Bins will be created via **Data Collection Template (DCT)** and uploaded using transaction **/SCWM/SBUP**.

Conversion Scope

In Scope

- Active, operational bins from the legacy WM system.
- Migration of all mandatory and optional fields required for EWM bin creation:
- Transformation of **3-character warehouse objects** (warehouse number, storage type, storage section) to **4-character objects** in S/4HANA.
- Upload through transaction **/SCWM/SBUP** using a Data Collection Template (DCT).

Out of Scope

- Deleted, obsolete, or test bins.
- Warehouses not part of deployment scope.
- Bin sorting rules, process type assignments, or fixed bin assignments (handled as separate conversion objects).

Additional Information

Multi-language Requirement

N/A

Document Management

N/A

Legal Requirement

N/A

Special Requirements

N/A

Target Design

The technical design of the target for this conversion approach.

Field Name	Technical Field	Description	Data Type	Length	Requirement	Transformation Rule
Warehouse Number	LGNUM	Warehouse Number	CHAR	4	Required	Legacy 3 4 char
Storage Bin	LGPLA	Storage Bin	CHAR	18	Required	1:1 copy
Storage Type	LGTYP	Storage Type	CHAR	4	Required	Legacy 3 4 char
Storage Section	LGBER	Storage Section	CHAR	4	Optional	Legacy 3 4 char
Bin Access Type	BIN_AT	Bin Access Type	CHAR	2	Optional	Copy if available
Fire Containment Section	BRAND	Fire Containment Section	CHAR	2	Optional	Copy if available
Storage Bin Type	LPTYP	Bin Type	CHAR	2	Optional	Copy/default
Storage Group	LGBER_LGST	Storage Group	CHAR	4	Optional	Copy if available
Maximum Weight	MAX_WEIGHT	Maximum Weight	QUAN	13	Optional	Copy/default
Maximum Volume	MAX_VOLUME	Maximum Volume	QUAN	13	Optional	Copy/default
Total Capacity	MAX_CAPA	Total Capacity	QUAN	13	Optional	Copy/default
Bin Aisle	AISLE	Bin Aisle	CHAR	3	Optional	Copy
Stack	STACK	Stack	CHAR	3	Optional	Copy
Level	LVL_V	Level	CHAR	3	Optional	Copy
Bin Section	BINSC	Bin Section	CHAR	3	Optional	Copy
Bin Angle	ANGLE	Bin Angle	CHAR	3	Optional	Copy
X Coordinate	X_CORD	X Coordinate	NUMC	6	Optional	Copy
Y Coordinate	Y_CORD	Y Coordinate	NUMC	6	Optional	Copy
Z Coordinate	Z_CORD	Z Coordinate	NUMC	6	Optional	Copy
Bin Depth	DEPTH	Bin Depth	NUMC	3	Optional	Copy
Verification	VERIF	Verification Indicator	CHAR	1	Optional	Copy
Removal Block	SKZUA	Removal Block	CHAR	1	Optional	Copy
Putaway Block	SKZUE	Put away Block	CHAR	1	Optional	Copy

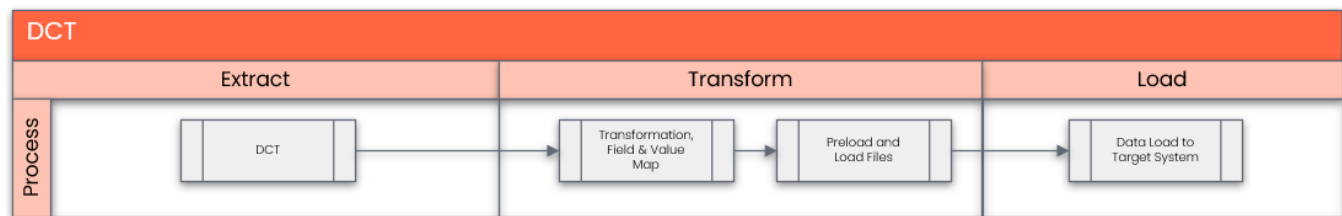
Data Cleansing

Data cleansing is essential to avoid loading irrelevant or invalid bins into EWM.

Cleansing Rule	Description	Responsibility
Obsolete bins	Exclude bins marked for deletion in LAGP	Data Team
Non-operational bins	Exclude bins not tied to operational storage types	Business Team
Invalid capacities	Correct or default any negative or missing MAXWE/MAXVO/CAPA values	Business / Project Team
Duplicates	Eliminate duplicate bin records	Data Team
Coordinate integrity	Ensure X/Y/Z coordinates are consistent with warehouse layout	Business Team
Block indicators	Validate correctness of removal/put away blocks	Warehouse Operations

Conversion Process

The high-level process is represented by the diagram below:



The process is divided into the following stages: Steps 2&3 are part of the DCT file generation

1. **Extraction** – Pull relevant fields from legacy system.
2. **Cleansing** – Apply rules to remove duplicates, obsolete bins, invalid values.
3. **Transformation** – Apply mapping (3 4 char), defaults, and adjustments.
4. **Pre-Load Validation** – Confirm counts and mapping accuracy.
5. **Load** – Upload DCT file via /SCWM/SBUP.
6. **Post-Load Validation** – Confirm successful bin creation in target.

Data Privacy and Sensitivity

N/A

Extraction

Source System/Table:

- **LAGP (WM Storage Bin Master)** in legacy SAP WM.

Extraction Run Sheet

Legacy Field	Target Field	Notes
LAGP-LGNUM	/SCWM/LAGP-LGNUM	3 4 char
LAGP-LGTYP	/SCWM/LAGP-LGTYP	3 4 char
LAGP-LGPLA	/SCWM/LAGP-LGPLA	1:1
LAGP-LGSAE	/SCWM/LAGP-LGBER	3 4 char
Remaining fields	As per mapping	Direct copy/default

Selection Screen

N/A

Data Collection Template (DCT)

Target Ready Data Collection Template will be created for data with exception of some fields which require transformation as mentioned in the transformation rule.

DCT Rules

The DCT serves as the upload file for /SCWM/SBUP.

- Mandatory columns: LGNUM, LGTYP, LGPLA.
- Optional columns included if available and relevant.

- Populated from transformed extract. Will occur as users are constructing data in DCT
- Used both for load and as record of migration scope.

Extraction Dependencies

- Target warehouse org structure (LGNUM, LGTYP, LGSEC) must exist.
- Mapping of 3 4 char codes finalized and signed off.
- Legacy data must be cleansed prior to staging.
- **Notes:**
 - Mandatory: LGNUM, LGTYP, LGPLA.
 - All other fields are optional depending on warehouse design.
 - Validation will check presence of mandatory fields before load.

Transformation

Transformation covers:

- **Org fields:** 3 4 char conversion for LGNUM, LGTYP, LGSEC.
- **Bin numbers:** Migrated 1:1 (LGPLA).
- **Capacities:** Defaults applied if missing.
- **Blocks and verification:** Carried forward only if maintained.
- **Coordinates:** Loaded if consistent with warehouse design.

Transformation Rules

Rule #	Legacy Field	Target Field	Logic
1	LGNUM	/SCWM/LAGP-LGNUM	Map 3 4 char
2	LGTYP	/SCWM/LAGP-LGTYP	Map 3 4 char
3	LGSAE	/SCWM/LAGP-LGBER	Map 3 4 char
4	LGPLA	/SCWM/LAGP-LGPLA	1:1
5	MAX_WEIGHT	/SCWM/LAGP-MAX_WEIGHT	Copy or default
6	MAX_VOLUME	/SCWM/LAGP-MAX_VOLUME	Copy or default
7	MAX_CAPA	/SCWM/LAGP-MAX_CAPA	Copy or default
8	SKZUA	/SCWM/LAGP-SKZUA	Copy if set
9	SKZUE	/SCWM/LAGP-SKZUE	Copy if set

Transformation Mapping

Mapping tables will be maintained for:

- **Warehouse Number** (legacy 3-char EWM 4-char)
- **Storage Type** (legacy 3-char EWM 4-char)
- **Storage Section** (legacy 3-char EWM 4-char)

Legacy source table : LAGP - storage bin Masterdata

Legacy Value	Target Value	Description
101	WH01	Warehouse 101 WH01

001	0001	Storage Type 001 0001
A01	SA01	Section A01 SA01

Transformation Dependencies

- Warehouse customizing must match mapping values.
- Master data creation must be completed before transformation.

Field Name	Technical Field	Legacy Source Table	Description	Data Type	Length	Requirement	Transformation Rule	Mapping Notes
Warehouse Number	LGNUM	LAGP-LGNUM	Warehouse Number	CHAR	4	Required	Legacy 3 4 char	Legacy value is 3 character. New value will be 4 character as agreed upon by business / functional team. New transformed value will be included as part of DCT
Storage Bin	LGPLA	LAGP-LGPLA	Storage Bin	CHAR	18	Required	1:1 copy	Copy from legacy
Storage Type	LGTYP	LAGP-LGTYP	Storage Type	CHAR	4	Required	Legacy 3 4 char	Legacy value is 3 character. New value will be 4 character as agreed upon by business / functional team. New transformed value will be included as part of DCT
Storage Section	LGBER	LAGP-LGBER	Storage Section	CHAR	4	Optional	Legacy 3 4 char	Legacy value is 3 character. New value will be 4 character as agreed upon by business / functional team. New transformed value will be included as part of DCT
Bin Access Type	BIN_AT	LAGP-BIN_AT	Bin Access Type	CHAR	2	Optional	Copy if available	Copy from legacy
Fire Containment Section	BRAND	LAGP-BRAND	Fire Containment Section	CHAR	2	Optional	Copy if available	Copy from legacy
Storage Bin Type	LPTYP	LAGP-LPTYP	Bin Type	CHAR	2	Optional	Copy/default	Copy from legacy
Storage Group	LGBER_LGST	LAGP-LGBER_LGST	Storage Group	CHAR	4	Optional	Copy if available	Copy from legacy
Maximum Weight	MAX_WEIGHT	LAGP-MAX_WEIGHT	Maximum Weight	QUAN	13	Optional	Copy/default	Copy from legacy
Maximum Volume	MAX_VOLUME	LAGP-MAX_VOLUME	Maximum Volume	QUAN	13	Optional	Copy/default	Copy from legacy
Total Capacity	MAX_CAPA	LAGP-MAX_CAPA	Total Capacity	QUAN	13	Optional	Copy/default	Copy from legacy
Bin Aisle	AISLE	LAGP-AISLE	Bin Aisle	CHAR	3	Optional	Copy	Copy from legacy
Stack	STACK	LAGP-STACK	Stack	CHAR	3	Optional	Copy	Copy from legacy
Level	LVL_V	LAGP-LVL_V	Level	CHAR	3	Optional	Copy	Copy from legacy
Bin Section	BINSC	LAGP-BINSC	Bin Section	CHAR	3	Optional	Copy	Copy from legacy
Bin Angle	ANGLE	LAGP-ANGLE	Bin Angle	CHAR	3	Optional	Copy	Copy from legacy
X Coordinate	X_CORD	LAGP-X_CORD	X Coordinate	NUMC	6	Optional	Copy	Copy from legacy
Y Coordinate	Y_CORD	LAGP-Y_CORD	Y Coordinate	NUMC	6	Optional	Copy	Copy from legacy
Z Coordinate	Z_CORD	LAGP-Z_CORD	Z Coordinate	NUMC	6	Optional	Copy	Copy from legacy
Bin Depth	DEPTH	LAGP-DEPTH	Bin Depth	NUMC	3	Optional	Copy	Copy from legacy
Verification	VERIF	LAGP-VERIF	Verification Indicator	CHAR	1	Optional	Copy	Copy from legacy
Removal Block	SKZUA	LAGP-SKZUA	Removal Block	CHAR	1	Optional	Copy	Copy from legacy. Subjected to change as per business requirement. Will be included in DCT
Putaway Block	SKZUE	LAGP-SKZUE	Put away Block	CHAR	1	Optional	Copy	Copy from legacy. Subjected to change as per business requirement. Will be included in DCT

Pre-Load Validation

Project Team

Check Type	Activity	Responsible
Completeness	Verify bin counts per warehouse	Project Team
Accuracy	Check mappings vs customizing	Project Team
Business Validation	Confirm bins and attributes align with warehouse design	Business Team

Load

The load process includes:

1. Execute the automated data load into target system using load tool or product the load file if the load must be done manually
2. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation

Sample Load File :

Load Run Sheet

Step	Description	Responsibility
1	Upload DCT into /SCWM/SBUP	Project Team
2	Monitor error log	Project Team
3	Correct and reload failed bins	Project Team
4	Validate created bins in /SCWM/LAGP	Business / Project Team

Load Phase and Dependencies

- Predecessor: Warehouse org structure migration.
- Successor: Bin sorting, warehouse process type assignment.

Configuration

N/A

Error Handling

Error handling is **critical** because /SCWM/SBUP rejects invalid or incomplete bins.

Error Categories

Error Type	Example	Resolution
Missing mandatory field	LGNUM not provided	Correct DCT and reload
Invalid mapping	Legacy 101 not mapped to WH01	Update mapping table
Incorrect capacity values	MAX_WEIGHT = negative	Correct or default value

Org mismatch	LGTyp not configured in target warehouse	Validate customizing
Bin already exists	Duplicate LGPLA	Remove duplicate before reload

- **Error Handling Process**

1. Run /SCWM/SBUP and review error log.
2. Categorize errors (mapping, cleansing, config, duplication).
3. Correct DCT file.
4. Reload corrected bins.
5. Track and report error resolution status to Project Governance.

Post-Load Validation

Check Type	Activity	Responsibility
Completeness	Compare loaded vs extracted counts	Project Team
Accuracy	Spot check field mappings	Syniti Team
Business Process	Test putaway/removal to verify bin usability	Business Team

Key Assumptions

- **Master Data Standard is up to date as on the date of documenting this conversion approach and data load.**
- **All target org structures (LGNUM, LGTyp, LGSEC) configured and available before load.**
- **3 4 character mappings signed off prior to conversion.**
- **Bin numbers migrate 1:1.**
- **/SCWM/SBUP is the only upload method.**
- **Governance applies:**
 - **Change of Bin Data: Allowed under strict approval.**
 - **Deletion of Bins: Only if empty and not in use, requires business approval**

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 10)	Oct 14, 2025 14:31	HASSAN-ext, Shamir	
v. 9	Oct 14, 2025 14:29	HASSAN-ext, Shamir	
v. 8	Oct 14, 2025 14:18	HASSAN-ext, Shamir	
v. 7	Oct 14, 2025 14:06	HASSAN-ext, Shamir	
v. 6	Sept 16, 2025 13:11	HASSAN-ext, Shamir	
v. 5	Sept 11, 2025 17:58	HASSAN-ext, Shamir	

v. 4	Jul 30, 2025 20:03	RAYUDU-ext, Narasimha Kumar
v. 3	Jun 16, 2025 14:35	RAYUDU-ext, Narasimha Kumar
v. 2	Jun 16, 2025 14:35	RAYUDU-ext, Narasimha Kumar
v. 1	Jun 16, 2025 14:27	RAYUDU-ext, Narasimha Kumar

Workflow history

Title	Last Updated By	Updated	State	Status
CNV-1049 EWM Storage Bin	HASSAN-ext, Shamir	Oct 14, 2025 14:31	Approved	

Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Nov 17, 2025	Actor	Type	Activity	Version
Approved	 TAN-ext, Charmaine	State	changed state to Approved at 12:44 pm (State override)	v10
			[PMO Comments] Conversion Spec completed as per CS register and functional review completed	
Oct 14, 2025				
Peer Review	 HASSAN-ext, Shamir	Edit	updated the page at 2:06 pm	
	 OMER-ext, Mohammed	State	gave <i>Peer Review</i> approval at 12:35 pm	
			Approved	
Oct 06, 2025				
	 RAYUDU-ext, Narasimha Kumar	State	assigned approval <i>Peer Review</i> to  OMER-ext, Mohammed at 9:39 am	
		State	assigned approval <i>Peer Review</i> to  RAYUDU-ext, Narasimha Kumar at 9:39 am	
		State	changed expiry date to '10 Oct, 2025 09:39 am' at 9:39 am	
		State	changed state to Peer Review at 9:39 am	
From Jun 16, 2025 to Sept 16, 2025				
	HASSAN-ext, Shamir and RAYUDU-ext, Narasimha Kumar	Edit	multiple updates from  HASSAN-ext, Shamir and  RAYUDU-ext, Narasimha Kumar	