SAP EWM BATCH PROCESSING

Table of Contents

Process overview 2
Batches in Inbound Processes 3
Batches in Outbound Processes 3
Batch Determination in Sales Orders 3
Batch Determination in Deliveries 3
Batch Determination with SAP EWM 4
Use cases 4
End user steps: 8
Master Data 8
Inbound Process- batch created in S/4 hana 9
Create Batch 9
Created PO 10
Create inbound Delivery 10
Create warehouse task 11
Warehouse Task confirmation 14
Inbound Process- batch created in EWM 17
Created PO 17
Create inbound delivery 18
Create Batch in SAP EWM 19
Create warehouse task 21
Warehouse task confirmation 22
Outbound Process-Batch determined in S/4 hana 24
Create Sales order 24
Create outbound delivery 28
Create warehouse task 29
Warehouse task confirmation. 30
Outbound Process-Batch determined in EWM 35
Create Sales order 36
Create outbound delivery 36
Create warehouse task 37
Warehouse task confirmation. 39

Mandeepps@gmail.com

Process overview

Overview

A batch describes a quantity or partial quantity of a certain material or product that has been produced according to the same recipe, and represents one homogenous, non-reproducible unit with unique specifications.

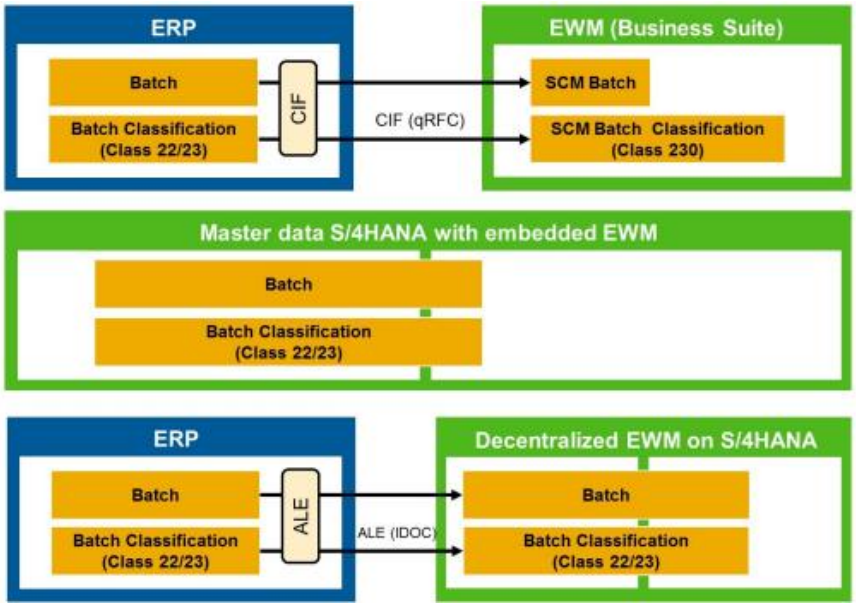
Practically batch can be created either via production order if you are a manufacturer or batches are received via vendor and created in system during inbound process.

Batches are managed centrally as master data in an SAP ERP system. The SAP ERP system distributes batches to all connected SAP EWM systems through the Core Interface (CIF) or through an IDoc, depending on the SAP EWM release. You can also create and partially change batches in the SAP EWM system. Batch characteristics describe the technical, physical, and/or chemical properties of a batch, and are stored in the classification system.

Mandeepns@gmail.com

Batches in EWM

Batch master data is also available in the SAP EWM system, but looks different depending on the SAP EWM system. In an SAP S/4HANA based decentral EWM system you have the same transactions as in an ERP system. It depends on the SAP S/4HANA release if you can only display, or if you can also create and change batches with the standard transactions.



Batches in Inbound Processes

When you receive material that is batch relevant, a batch must be created before the goods receipt can be posted (as the batch is part of the stock information). The batch creation can happen at various times. The batch can be created before you create the inbound delivery in ERP and directly entered in that inbound delivery. You can also create a batch in ERP during the creation of the ERP inbound delivery (customizing must be set up accordingly).

Mandeepps@gmail.com

The batch can also be created in SAP EWM. In that case, it is automatically created in the background in ERP using a remote function call.

Batches in Outbound Processes

You can assign batches to be sold or picked manually at certain points, but it can be done automatically using batch determination, which uses condition technique. This enables you to define your own search strategies by choosing the relevant key fields from the business transaction to search for batches. For example, you choose the combination of customer and material and then specify the criteria for batch selection.

Batch Determination in Sales Orders

The batch can be determined automatically in the sales order. This batch is then copied into the ERP outbound delivery and the SAP EWM outbound delivery order and picking is limited to quants that are part of this batch. However, in a sales order, batch splits are not possible. This means that the system assigns one batch only. If this batch does not have the required quantity, the rest of the sales order is never fulfilled.

Batch Determination in Deliveries

During a batch determination in a delivery, the system always creates a batch split. The system can select as many batches as are required to fulfill the requested quantity, as long as the batch determination criteria are fulfilled. In the

case where not enough stock is available in the right batches, the sales order is still open and can be fulfilled later when new batches with the required criteria are available.

Batch Determination with SAP EWM

From a warehouse point-of-view, a batch assigned in the ERP outbound delivery may not be the best choice, because the sort criteria for the batch determination do not reflect any picking strategies. SAP EWM does not have batch determination functionality. However, the interface can be set up so that ERP batch determination in the outbound delivery is only being used to determine the batch determination criteria that needs to be fulfilled, without assigning a batch. These criteria are then passed on to SAP EWM and used to determine the best quant from a warehouse picking strategy, while fulfilling the batch determination requirement.

Use cases

Batch management is critical for industries that require **traceability, expiration control, and quality assurance**. Below are real-world scenarios of how SAP EWM manages batches in different industries.

---

1. Pharmaceutical Industry (Batch Tracking & Compliance)

Scenario:

A pharmaceutical company manufactures **COVID-19 vaccines** that require strict **batch traceability and expiration control**.

Mandeepps@gmail.com

SAP EWM Solution:

- **Batch Creation:** Each vaccine batch is assigned a unique batch number during production.
- **Storage & Tracking:**
    - Temperature-sensitive batches are stored in climate-controlled bins.
    - SAP EWM integrates with **SAP ATTP (Advanced Track & Trace for Pharmaceuticals)** to ensure compliance with serialization laws.
- **Batch Determination for Picking (FEFO Strategy):**
    - Hospitals place orders for vaccines.
    - SAP EWM applies **First-Expiry-First-Out (FEFO)** to ship batches closest to expiry first.
- **Recall Management:**
    - If a batch is found to be defective, SAP EWM enables **full batch traceability**, identifying which hospitals received the affected batch.

Outcome:

✅ Ensures regulatory compliance and prevents expired vaccines from being shipped.
✅ Reduces risks by enabling fast and accurate batch recalls.

---

2. Food & Beverage Industry (FEFO-Based Picking)

Scenario:

A dairy company produces **milk cartons** with a shelf life of 10 days. The company must ensure older batches are shipped first.

SAP EWM Solution:

- **Batch Creation:** Each milk batch is assigned a batch number linked to its **production date and expiry date**.
- **Storage Strategy:**
    - The warehouse is divided into cold storage zones.
    - Milk is stored in **pallets with batch numbers**.
- **Picking Strategy (FEFO):**
    - SAP EWM applies **FEFO** to ensure that milk with the **earliest expiration date** is picked first.
- **Quality Control:**
    - If a quality check detects spoiled milk in a batch, SAP EWM blocks it from being picked and updates inventory status.

Mandeepps@gmail.com

Outcome:

✅ Reduces waste by ensuring that products are sold before expiry.
✅ Ensures fresh products are shipped to customers.

---

3. Automotive Industry (Batch Tracking for Safety Recalls)

Scenario:

A car manufacturer produces **brake pads** in batches. A defect is later discovered in a specific batch, and the company needs to recall affected vehicles.

SAP EWM Solution:

- **Batch Number Assignment:**
    - Each batch of brake pads receives a unique batch number at the supplier.
    - The batch number is tracked through the supply chain.
- **Batch Traceability:**
    - SAP EWM logs which factories, dealerships, and customers received each batch.

- **Defective Batch Recall:**
    - If a defective batch is identified, SAP EWM allows the manufacturer to **trace which vehicles were built with those parts**.
    - A **recall notification** is sent to affected dealerships and customers.

Outcome:

✅ Enables **fast and precise recalls**, reducing safety risks.
✅ Avoids unnecessary recalls by isolating affected batches only.

---

4. Chemical Industry (Batch Status & Quality Control)

Scenario:

A chemical manufacturer produces **industrial paint**, and each batch must pass quality control before distribution.

SAP EWM Solution:

- **Batch Status Management:**
    - When a batch is produced, SAP EWM assigns it an **initial "Blocked" status**.
    - The batch is sent to **SAP QM (Quality Management)** for testing.
- **Quality Check Integration:**
    - If the batch passes, SAP QM updates the status to **"Unrestricted Use"**, allowing it to be shipped.
    - If it fails, the batch remains blocked and is moved to a quarantine storage bin.
- **Batch-Specific Picking:**
    - Only batches marked as "Unrestricted" are considered for outbound delivery.

Mandeepps@gmail.com

Outcome:

✅ Ensures only high-quality products are shipped.
✅ Prevents the risk of delivering defective chemicals.

---

5. Retail Industry (Batch-Based Promotions & Expiry Management)

Scenario:

A cosmetics company sells **limited-edition lipsticks** with a batch-based promotion.

SAP EWM Solution:

- **Batch Identification for Promotions:**
    - The company assigns a batch code to the **limited-edition stock**.
    - SAP EWM links promotional discounts to that batch.
- **Batch-Specific Picking:**
    - Only batches with the promotion tag are picked for online orders.
- **Expiry Management:**
    - Unsold stock nearing expiry is flagged, and SAP EWM initiates **clearance sales**.

Outcome:

✅ Helps track **promotional inventory** separately.
✅ Prevents expired products from being sold to customers.

Conclusion

SAP EWM batch management is crucial in industries that require:
✓ **Traceability** (e.g., pharmaceuticals, automotive)
✓ **Quality control** (e.g., chemicals, food & beverage)
✓ **FIFO/FEFO stock rotation** (e.g., dairy, cosmetics)
✓ **Regulatory compliance** (e.g., pharma, food safety)

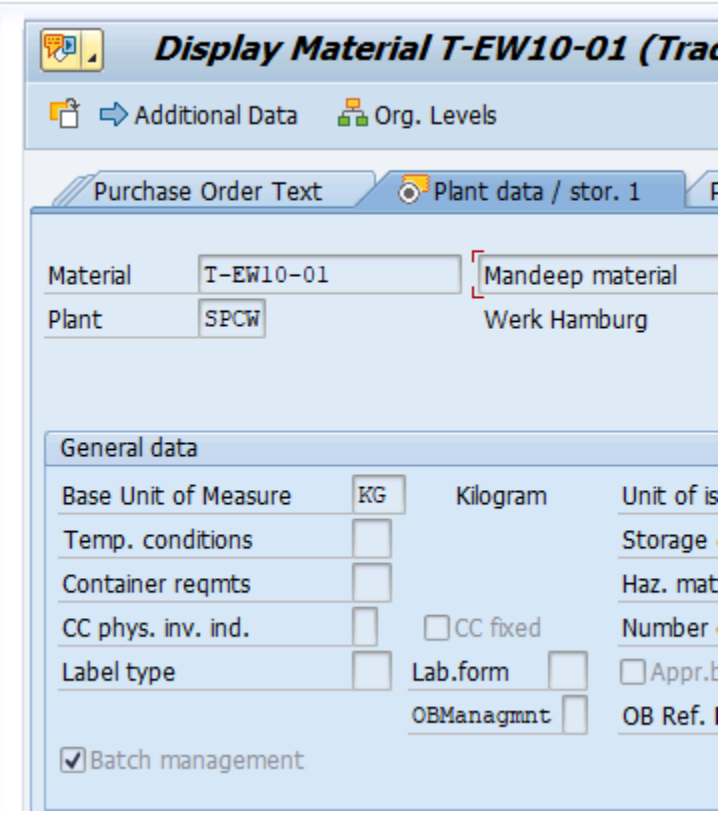
Mandeepps@gmail.com

End user steps:

Master Data

Mandeepps@gmail.com

Material must be batch managed in plant/store location level in mm03

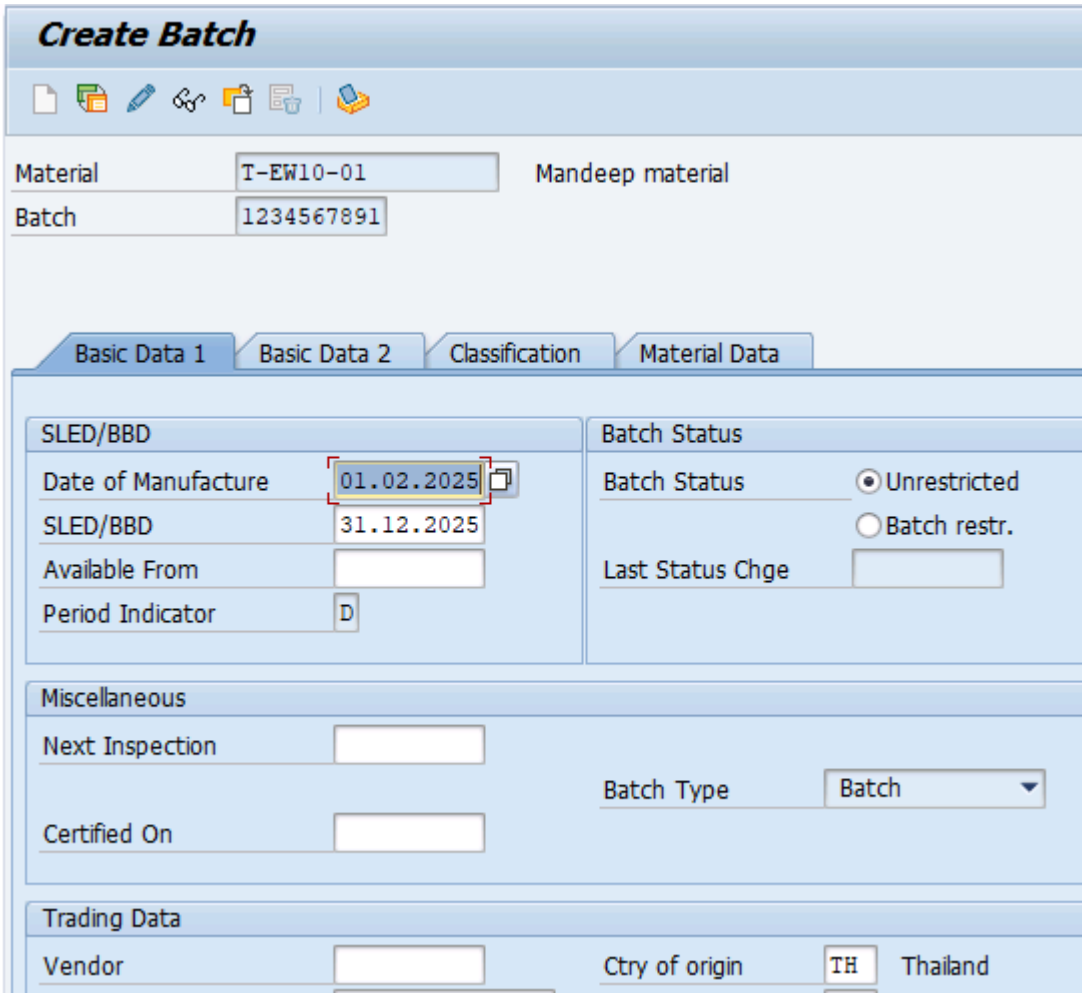


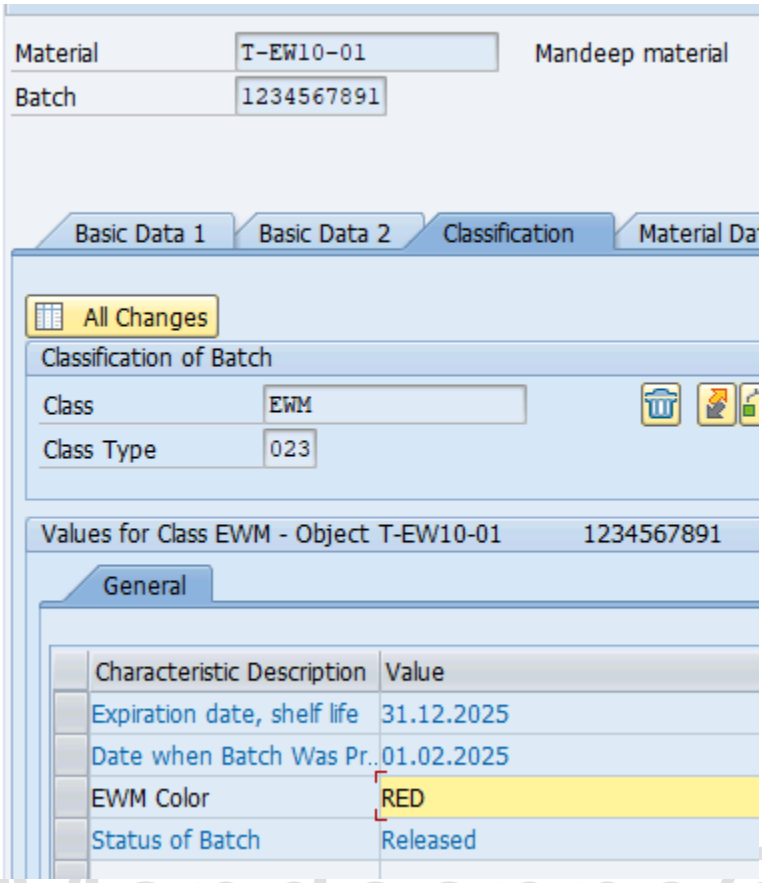
Inbound Process- batch created in S/4 hana

Create Batch

Created batch: 1234567891 in SAP ERP in tcode: MSC1N

Red color

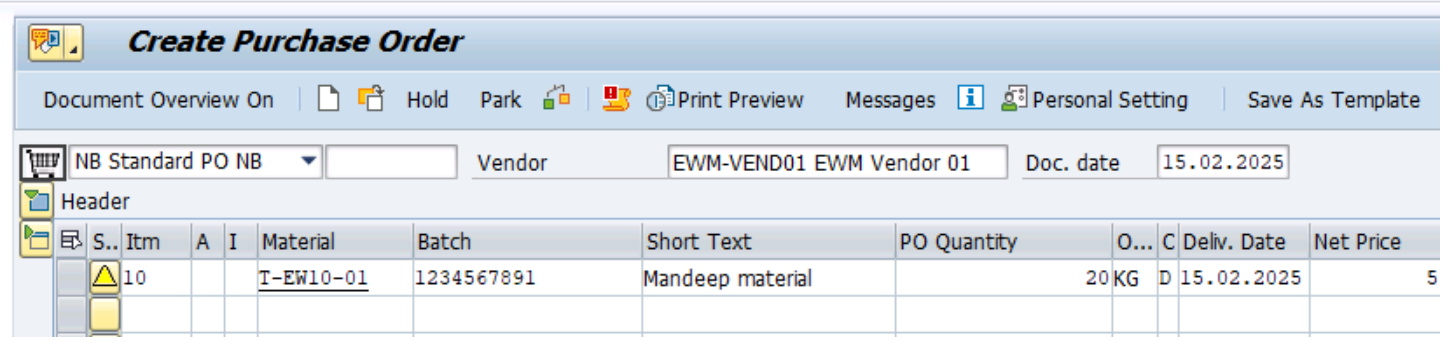




Mandeepps@gmail.com

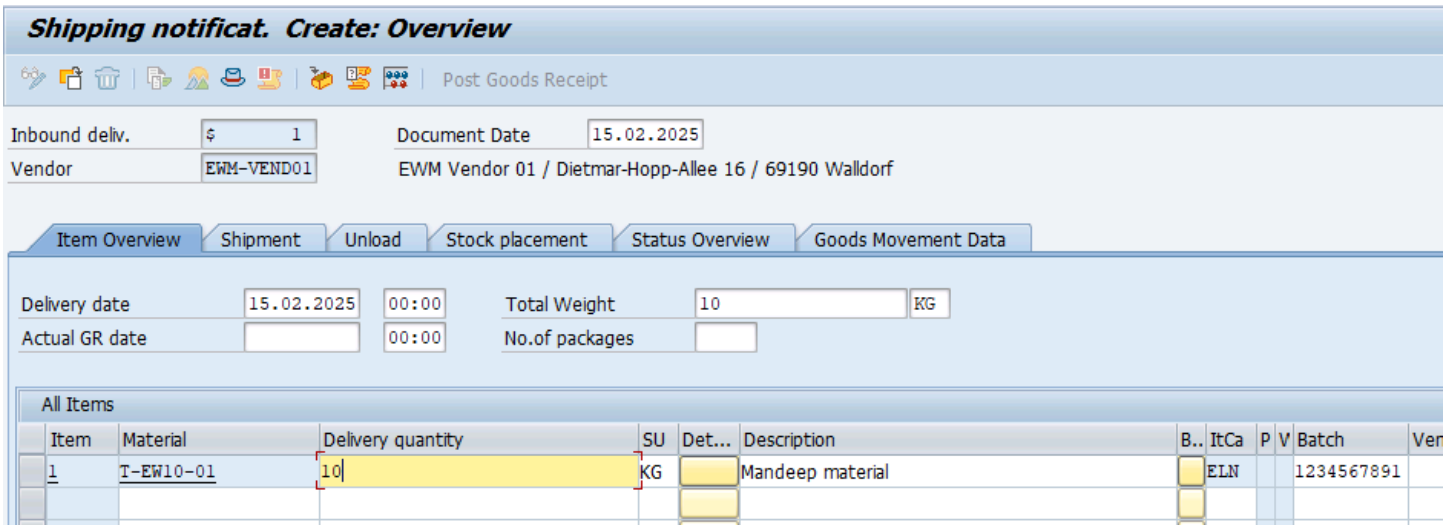
EWM color is characteristics defined in configuration and we can add more.

Created PO



PO number: **4500017231**

Create inbound Delivery



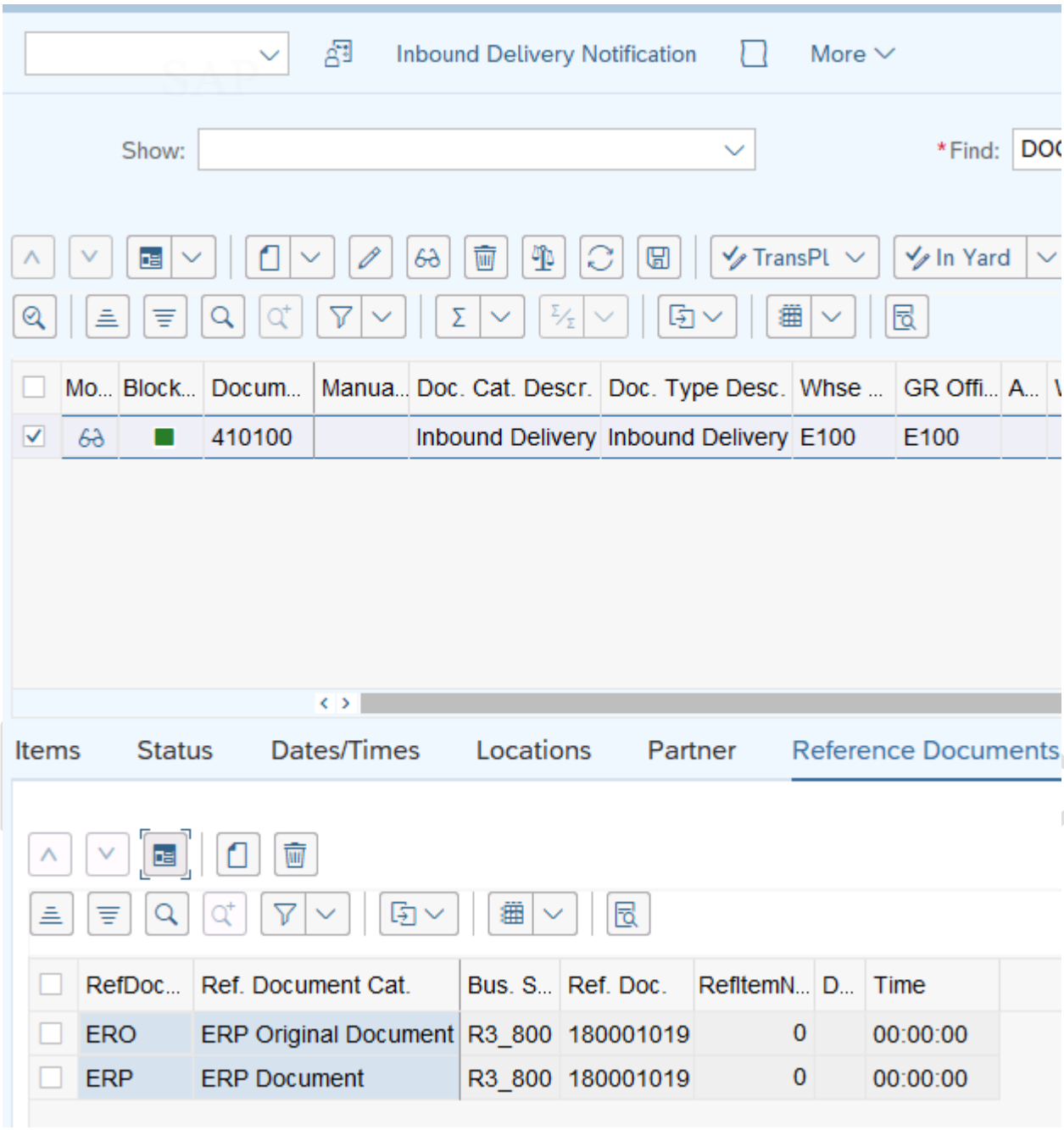
Inbound delivery: **180001019**

Create warehouse task

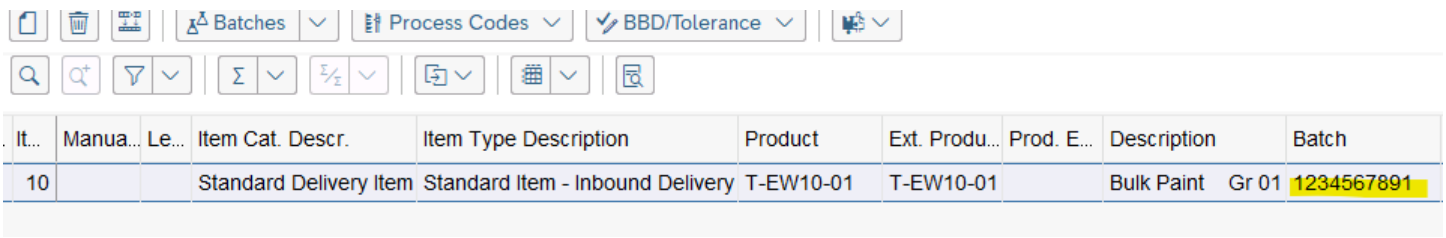
Tcode: /N/SCWM/MON or /n/scwm/prdi (inbound delivery)

Mandeepps@gmail.com

Based on Inbound delivery in ERP , inbound delivery: 410100 is created in SAP EWM

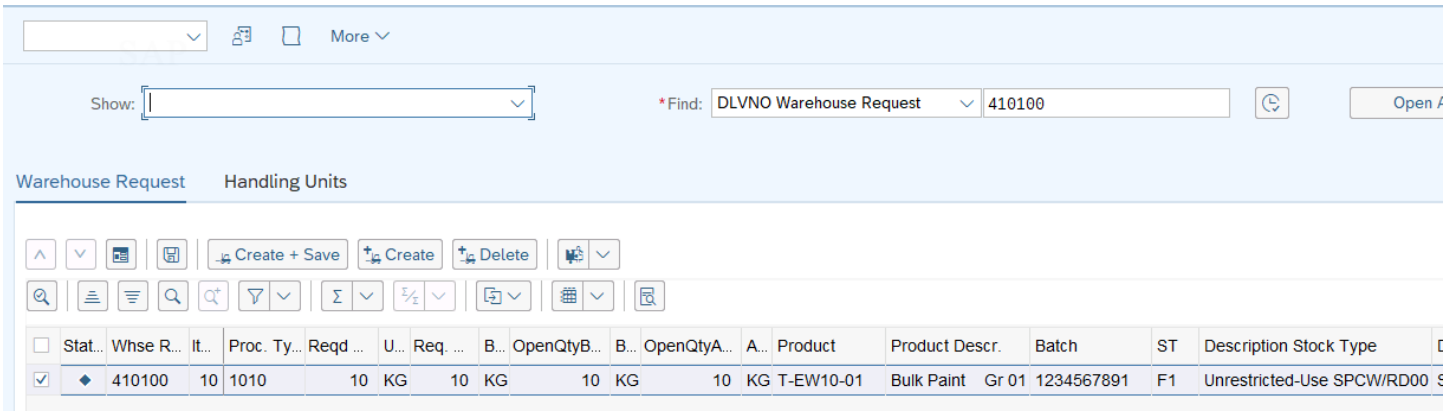


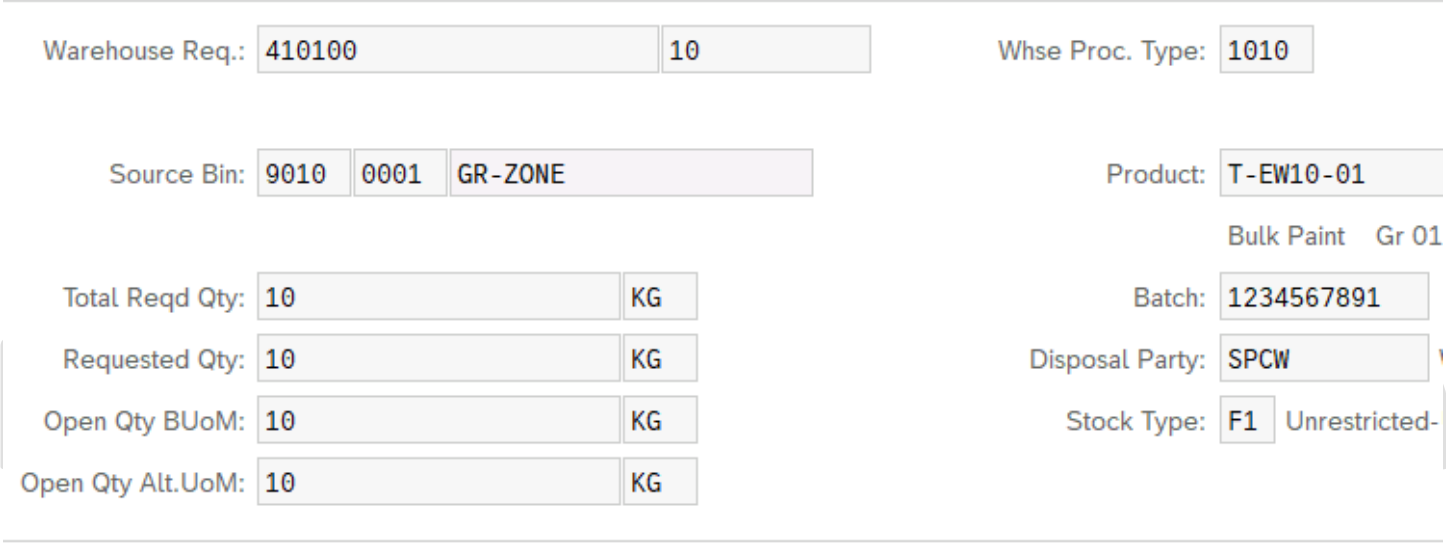
Batch also get copied correctly as shown below



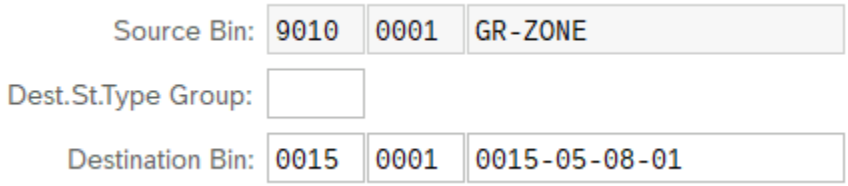
Batch: 1234567891 is internal number range in SAP ERP but in sap ewm – it is defined as external number range.

With follow-on fuction warehouse task is created



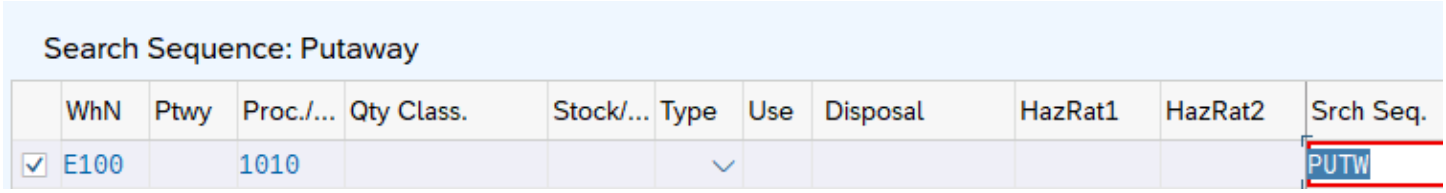


Process type determined is 1010 and source bin : GR-ZONE is GR staging area in storage type: 9010



Destination bin is 0015-05-08-01 is getting determined based on putaway strategies

Based on process type: 1010, search sequence: PUTW is determined.



And based on PUTW – we determine storage type: 0015 as it is first in sequence

Storage Type Search S

View: /SCWM/V_T334QS
Client: 800
Datum: 15.02.2025

WhN	Seq	Seq. ...	Ty.	S.
E100	PUTW	1	0015	
E100	PUTW	2	0020	
E100	PUTW	3	0010	
E100	PUTW	4	0080	

Mmbe stock in SAP ERP before put away.

Selection

Material	T-EW10-01	Mandeep material	
Material Type	HAWA	Trading goods	
Unit of Measure	KG	Base Unit of Measure	KG

Stock Overview

Detailed Display

Client/Company Code/Plant/Storage Location/Batch/Special Stock	Unrestricted use	Qual. inspection	Reserved	Rcpt reservation	On-Order Stock	Cons
Full	160,000				20,000	
1000 IDES AG	160,000				20,000	
SPCW Werk Hamburg	160,000				20,000	
AF00 Avail. For Sale	80,000					
AF01 AFS Gr 01	80,000					
RD00 Recvd on Dock					20,000	

Warehouse Task confirmation

After put away confirmation of 10 KG, MMBE

Warehouse Task:	200100	1	
WT Status:	Confirmed		
Product:	T-EW10-01		
Batch:	1234567891	Serial No. Reqm:	
Source Bin:	9010	0001	GR-ZONE
Destination Bin:	0015	0001	0015-05-08-01

Src Tgt Qty AUn:	10	KG
Act. Dest. Qty:	10	KG

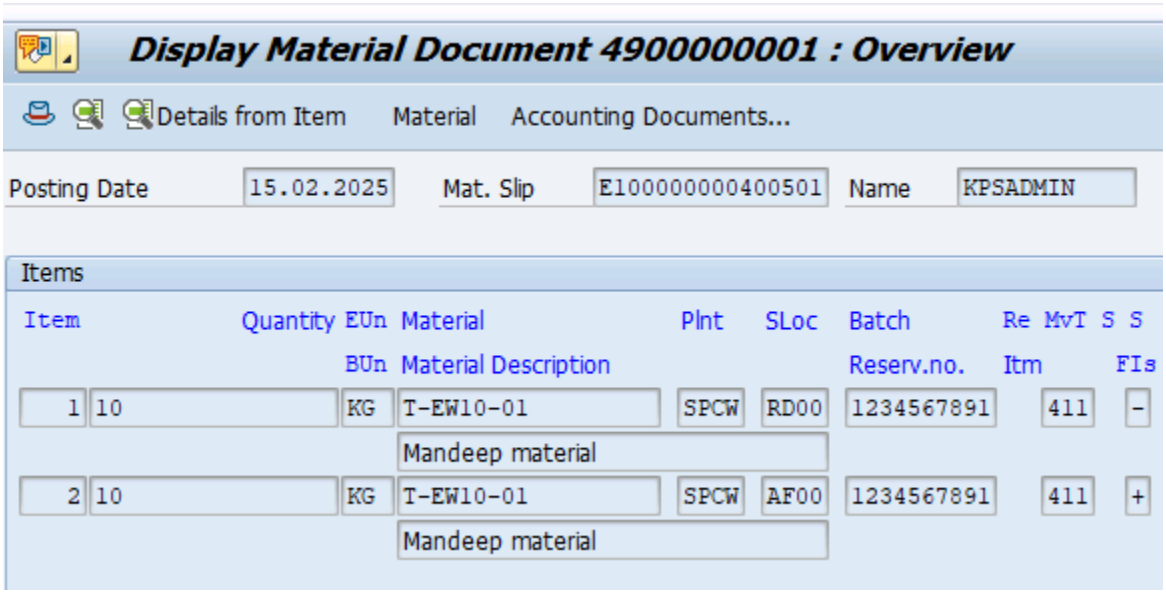
Mmbe in ERP: stock moved to AF00 from RD00 storage location. Stock type in EWM is changed to F2.

Material	T-EW10-01	Mandeep material	
Material Type	HAWA	Trading goods	
Unit of Measure	KG	Base Unit of Measure	KG

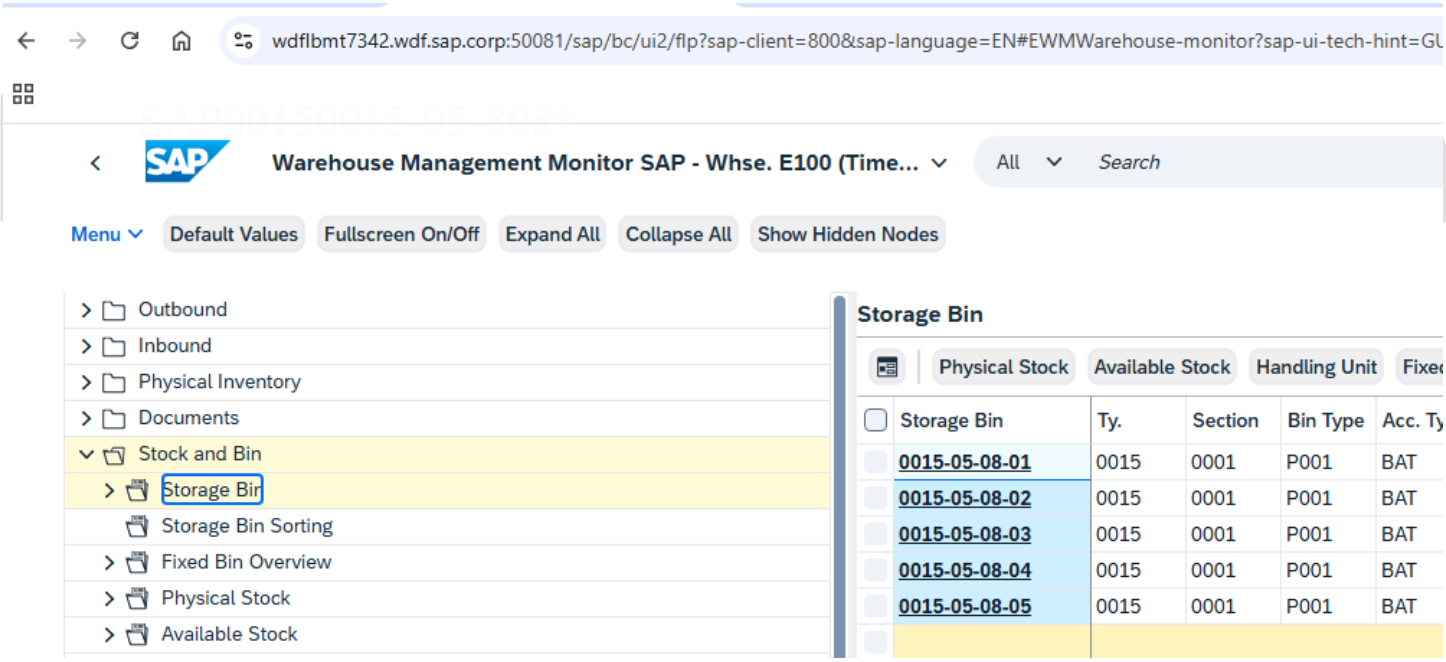
Stock Overview

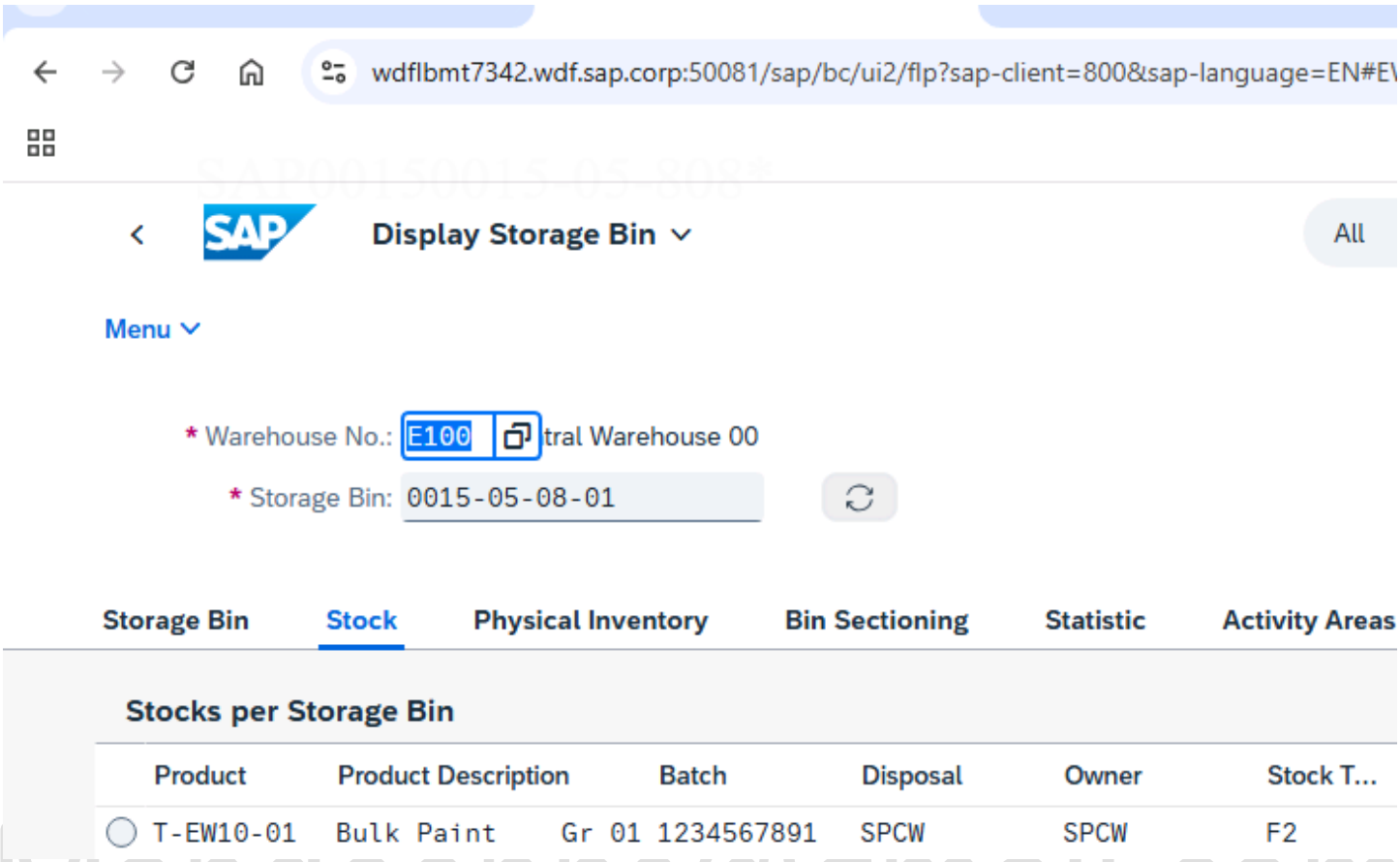
Detailed Display

Client/Company Code/Plant/Storage Location/Batch/Special Stock	Unrestricted use	Q
Full	170,000	
1000 IDES AG	170,000	
SPCW Werk Hamburg	170,000	
AF00 Avail. For Sale	90,000	
1234567891	10,000	



In warehouse monitor , we can see stock



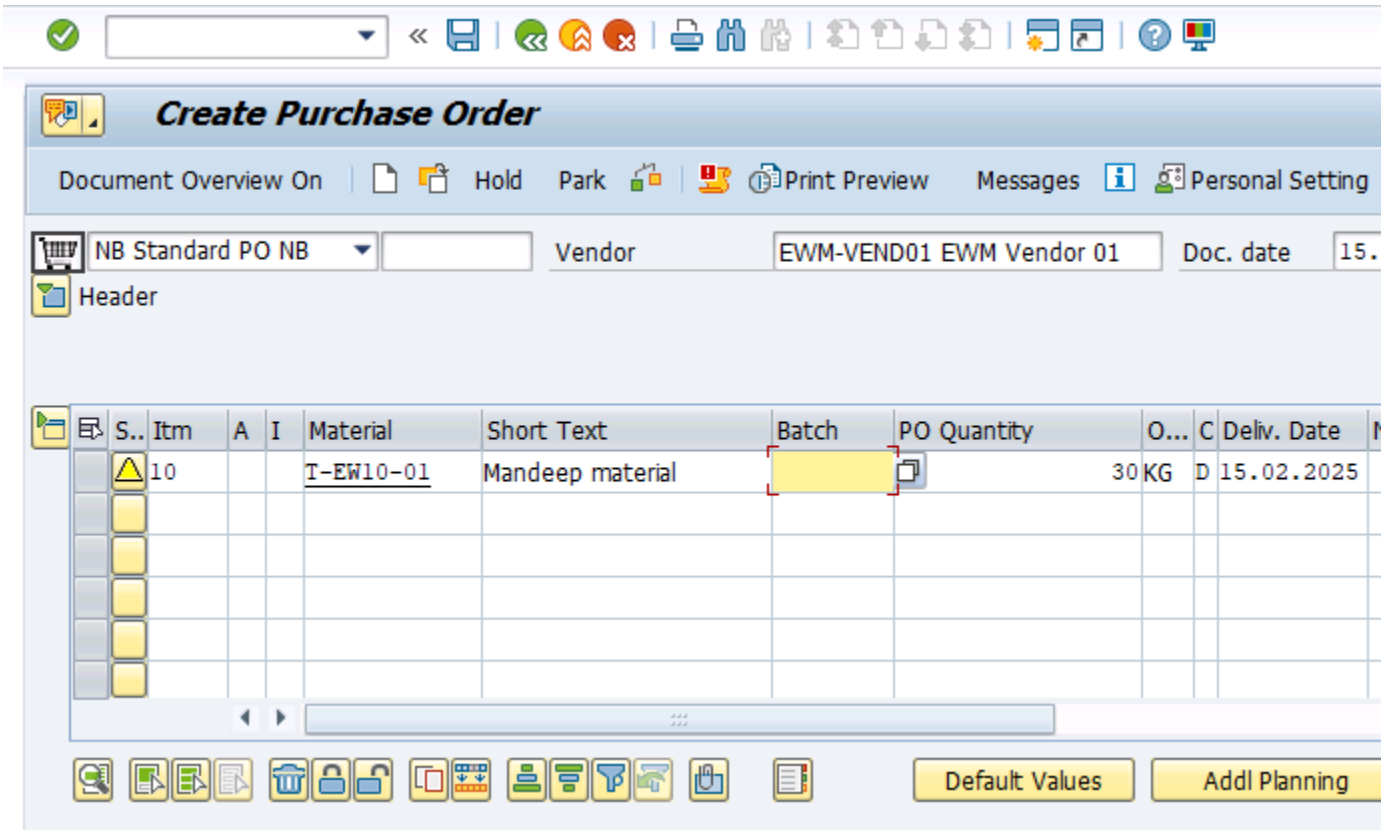


mandeepps@gmail.com

Inbound Process- batch created in EWM

Created PO

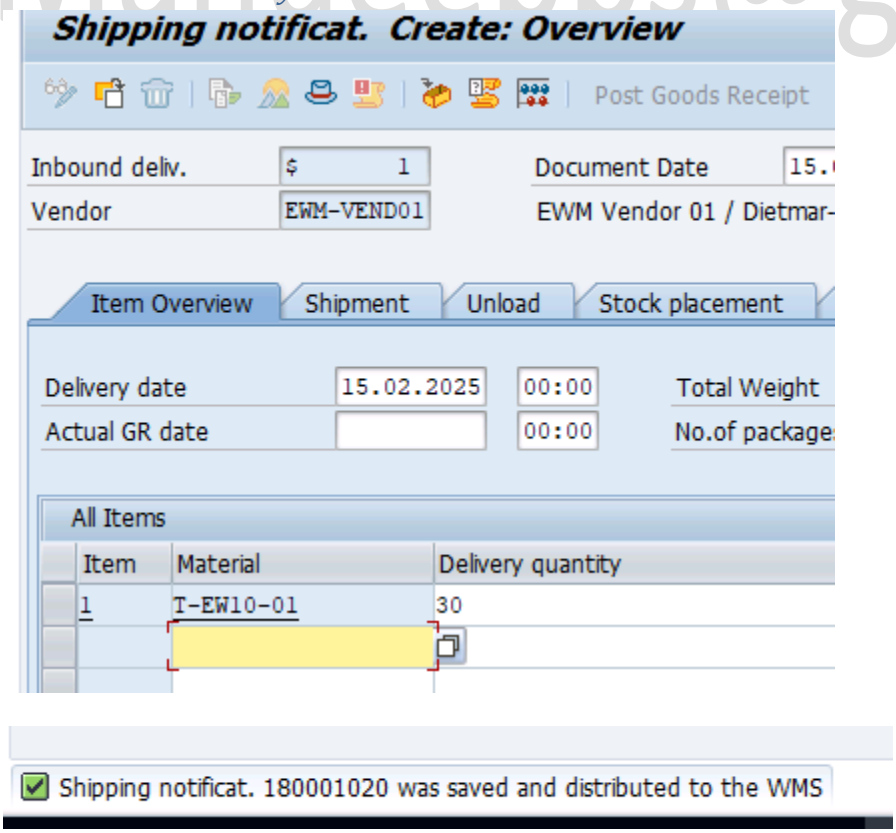
Batch is blank:



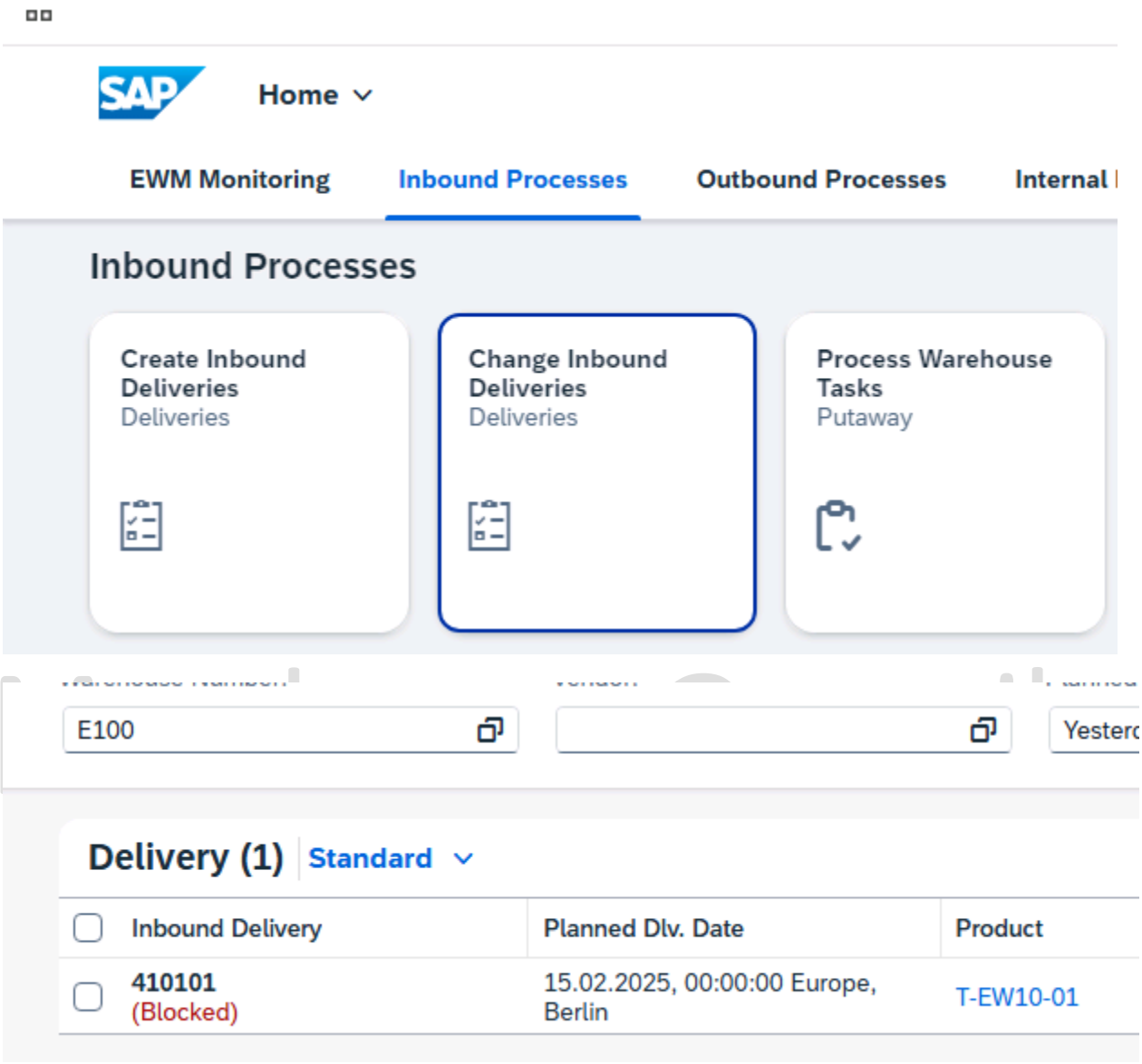
Po: **4500017232**

Mandeepps@gmail.com

Create inbound delivery

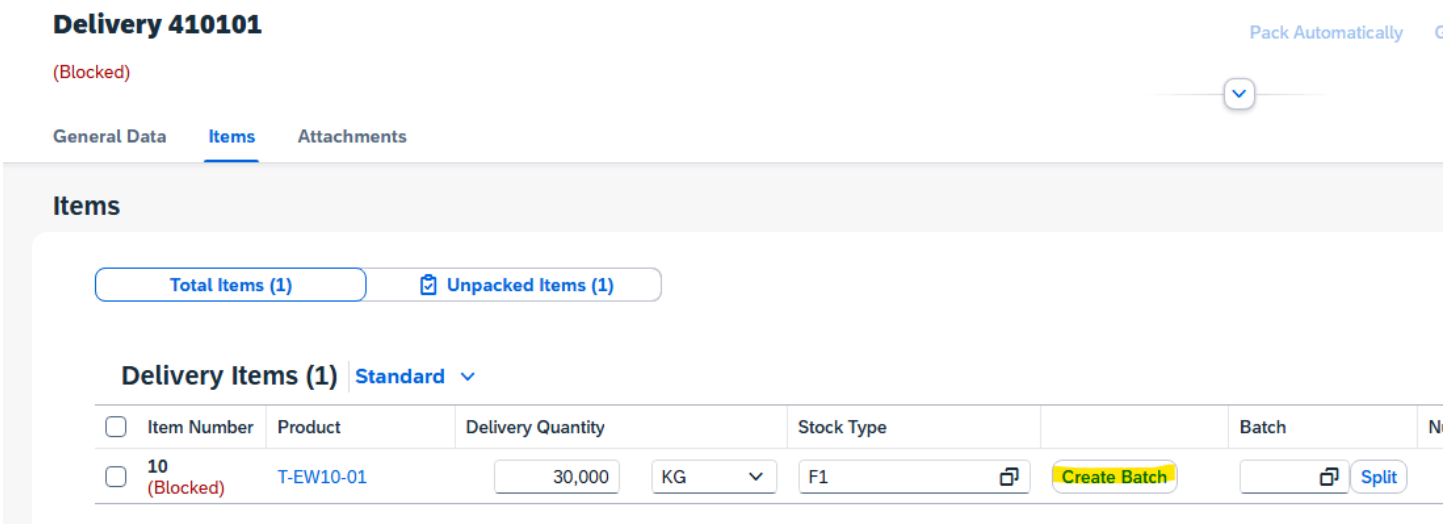


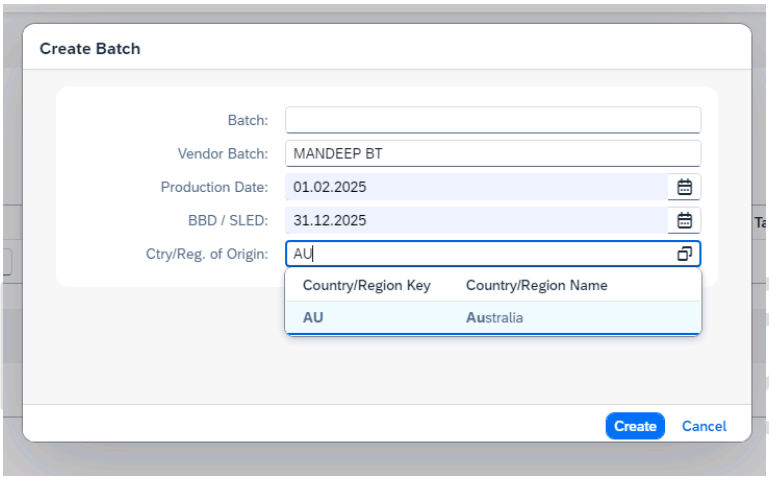
Click on change inbound delivery in Fiori app



Inbound delivery : 410101 is created but it is blocked. Why.

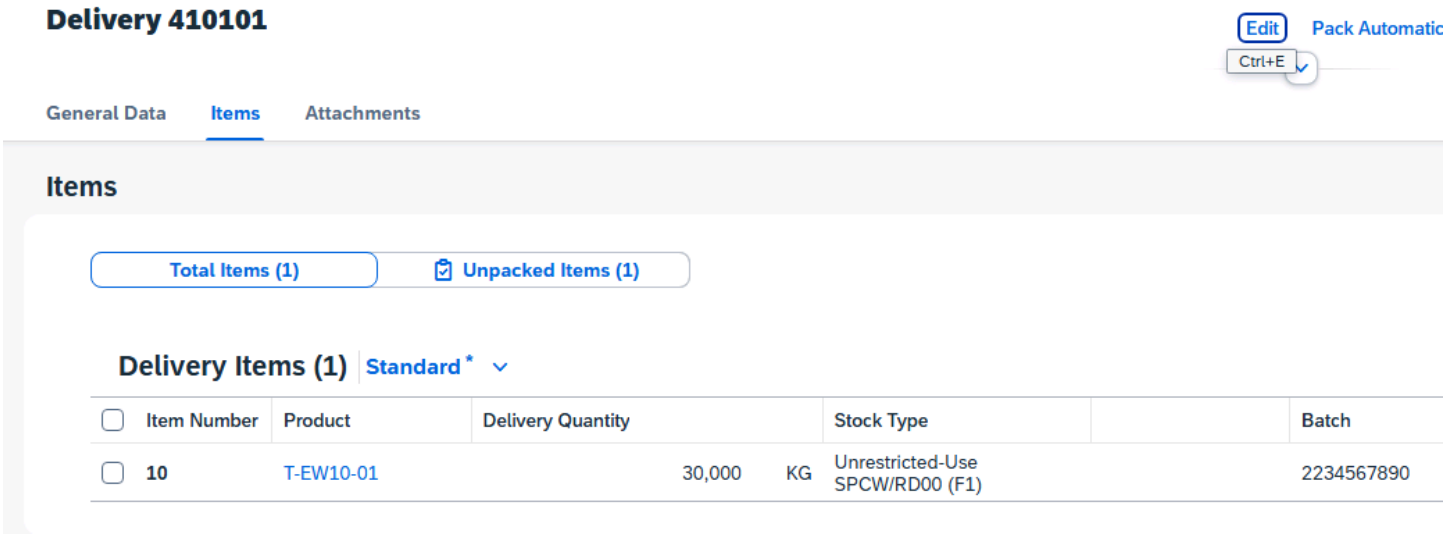
Because material is batch managed and it doesn't have batch information. So this time, we'll put batch information in SAP ewm inbound delivery.





@gmail.com

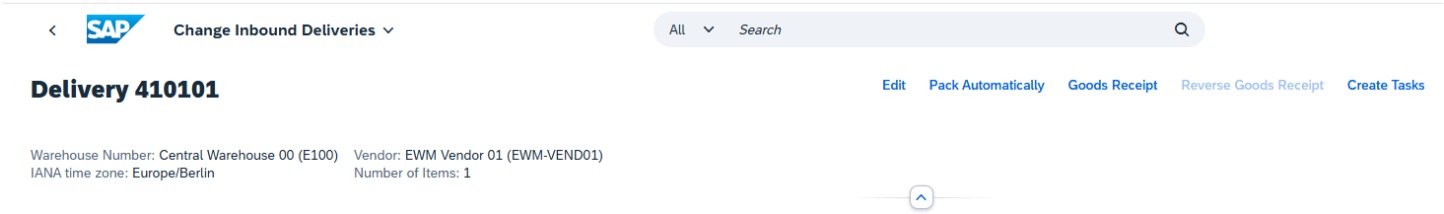
Batch : 2234567890 created as shown below and delivery has become unblocked.



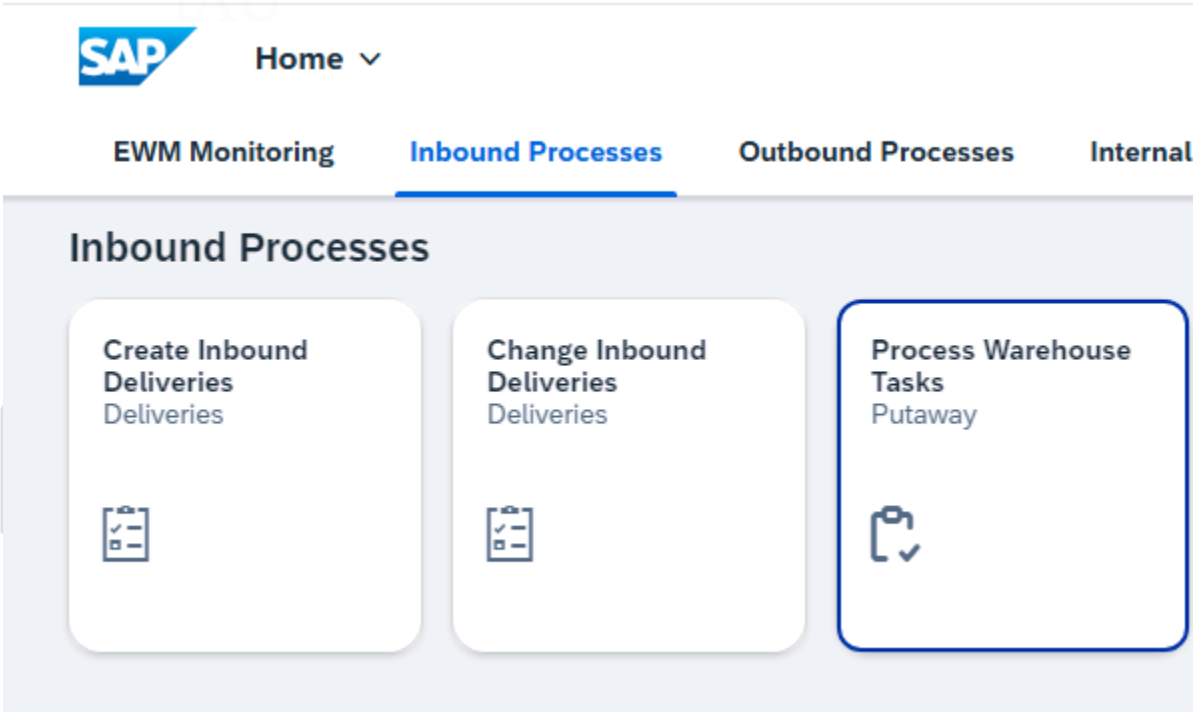
Create warehouse task

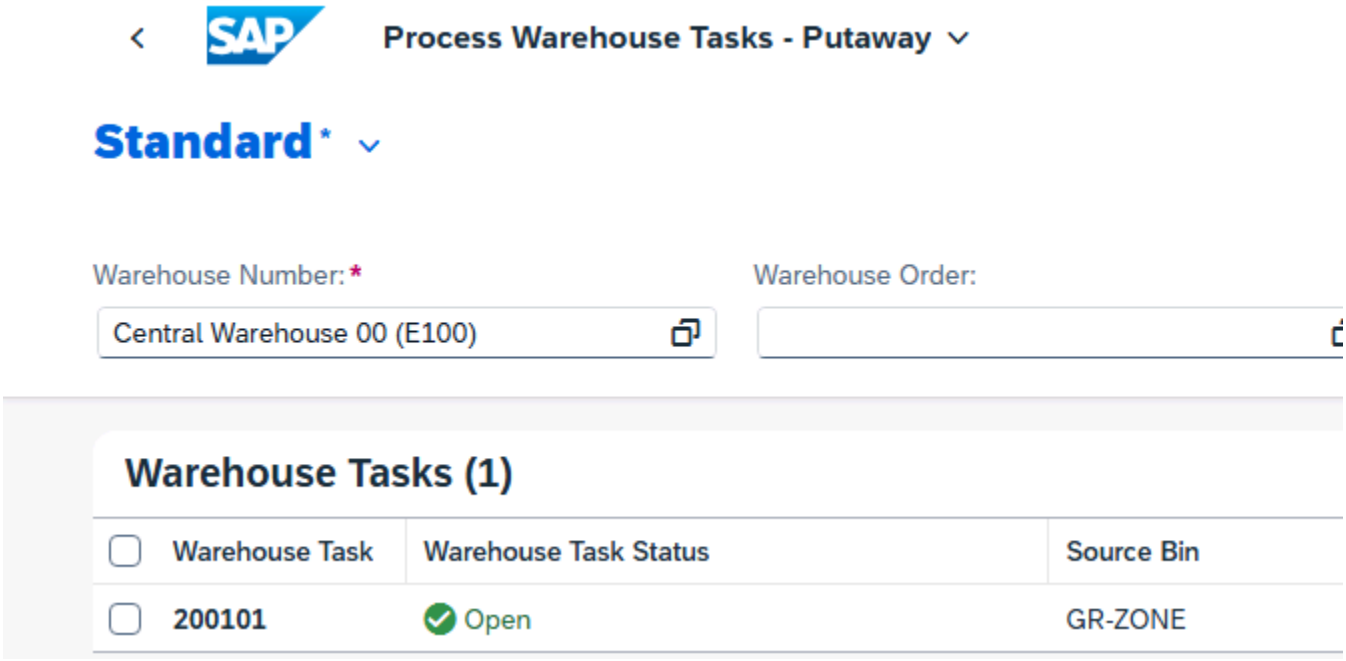
Click on create task

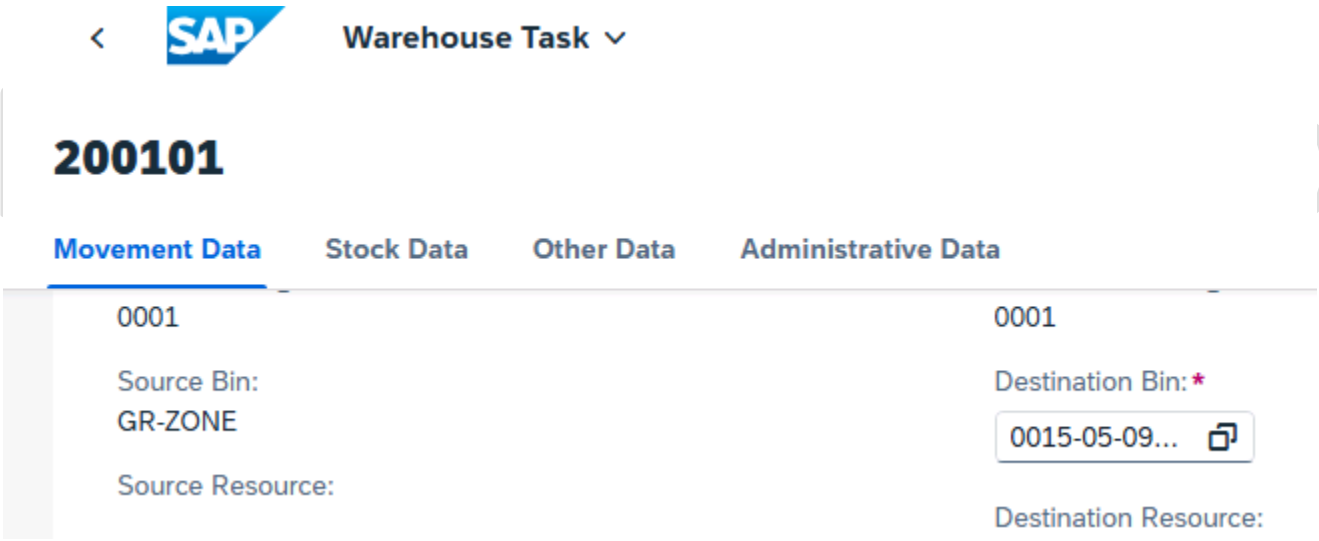
-



It created warehouse task with open status



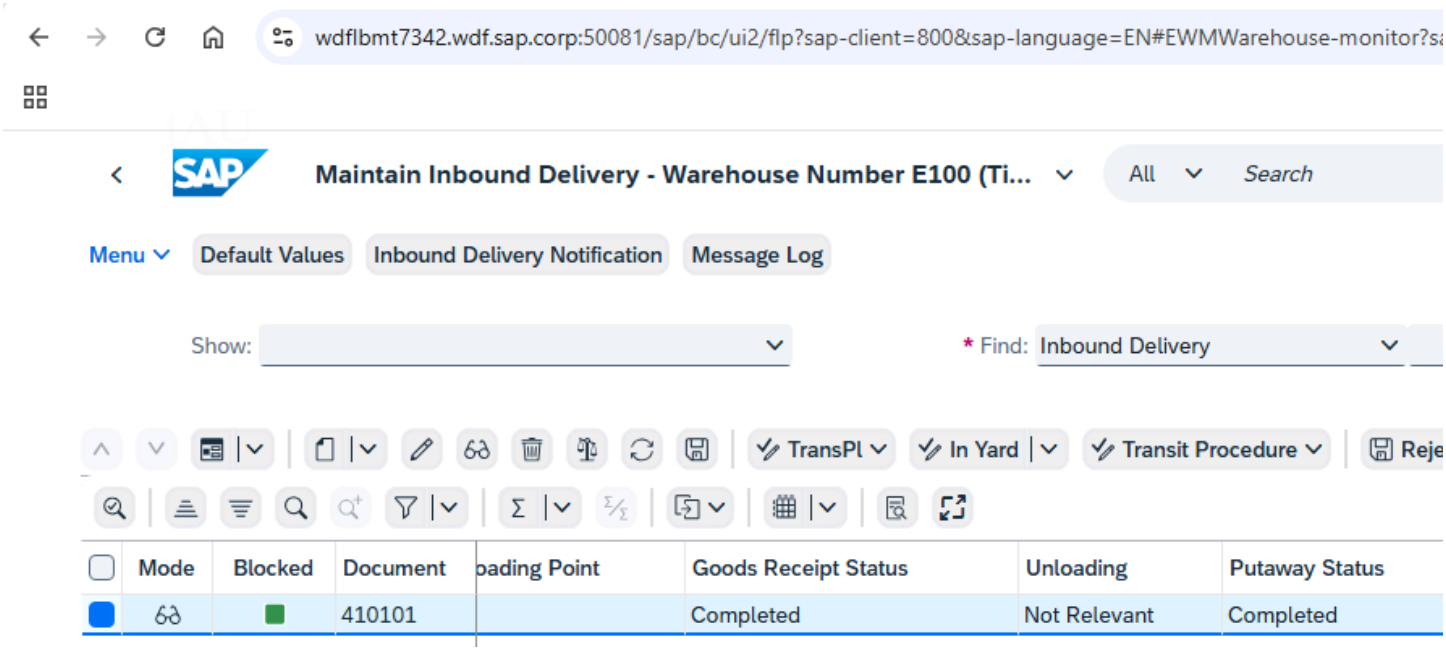




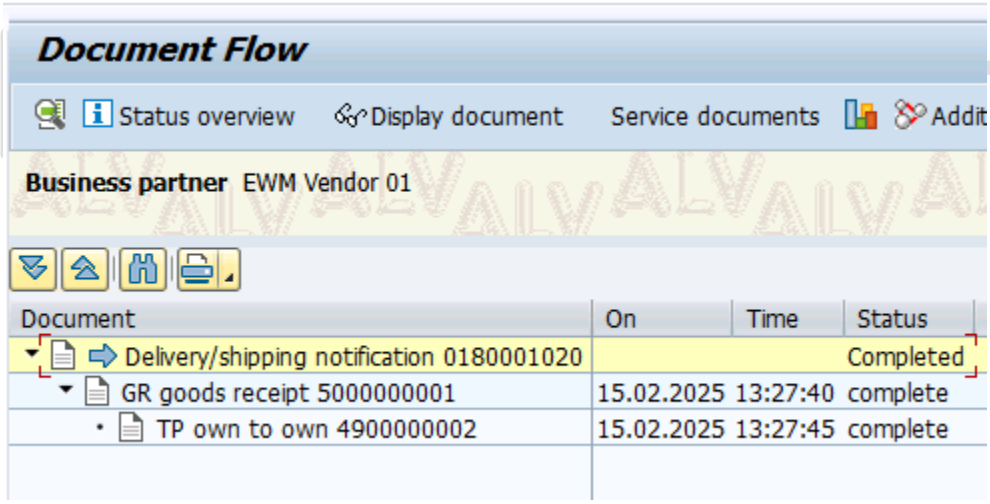
Storage bin determined is 0015-05-09-01

Warehouse task confirmation

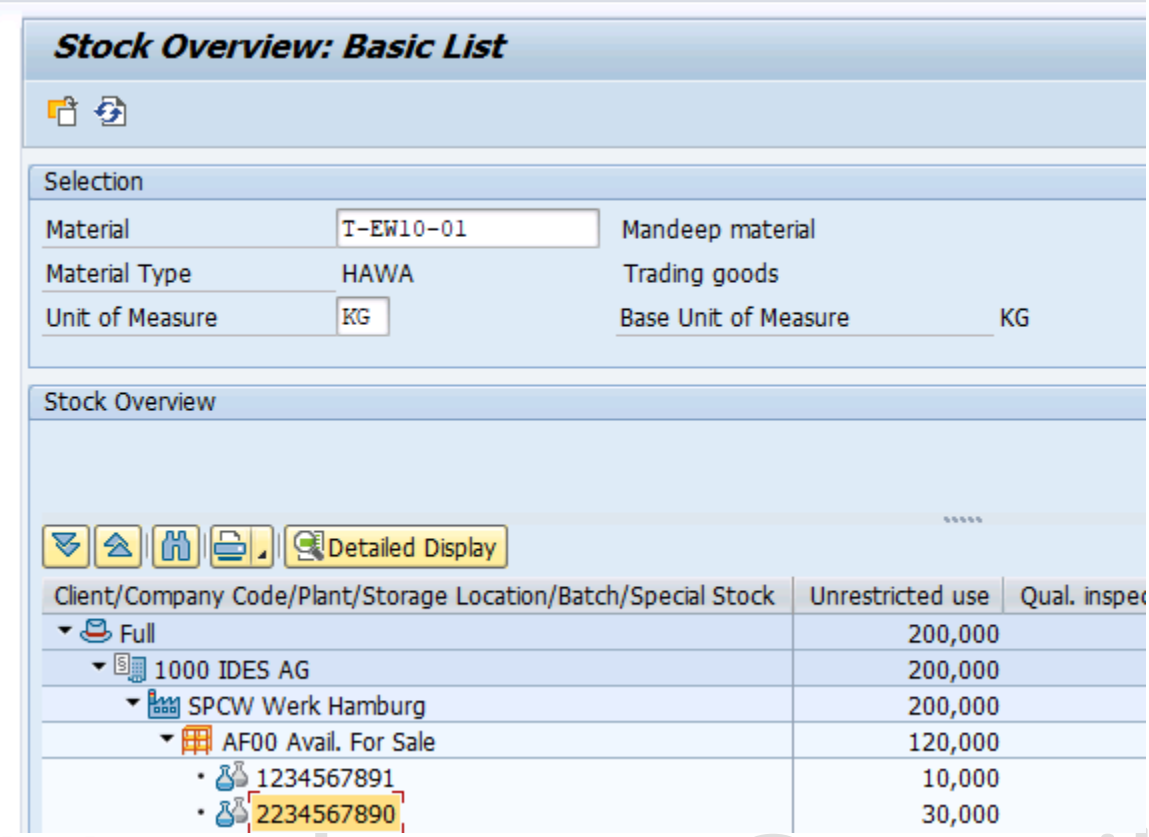
Warehouse task confirmation is complete after moving stock to storage bin.



And GR gets posted to SAP ERP



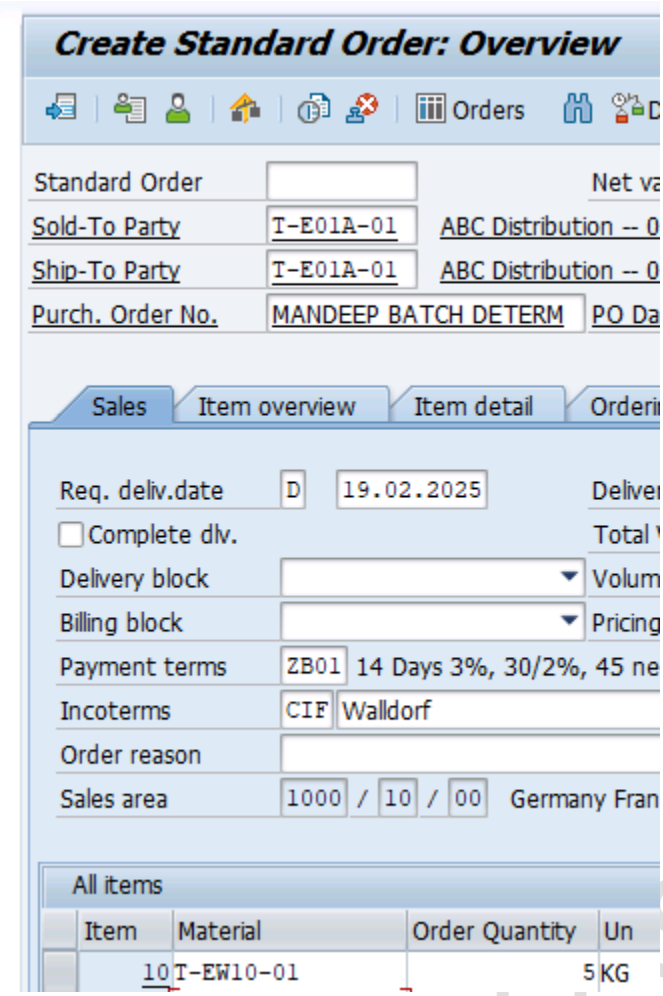
MMBE . Now batch created in sap ewm is showing up in SAP S/4 system.



Outbound Process-Batch determined in S/4 hana

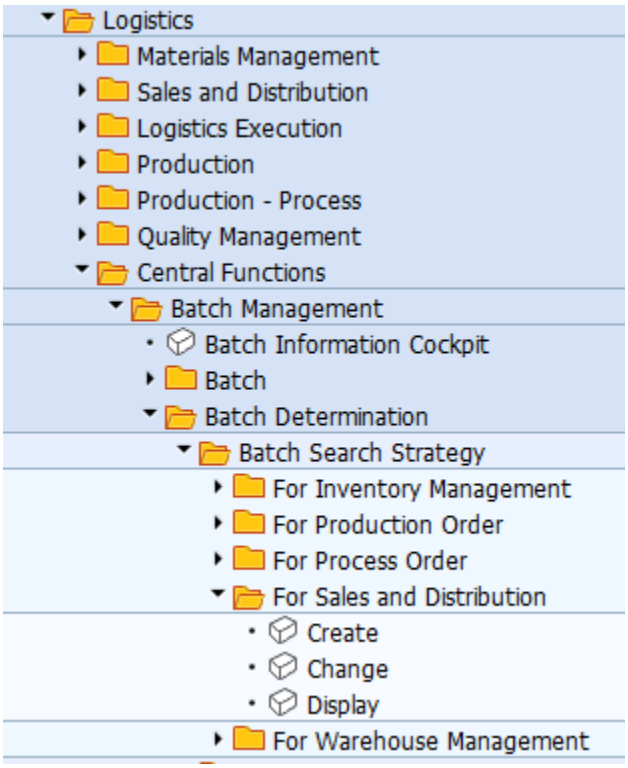
Mandeepps@gmail.com

Create Sales order

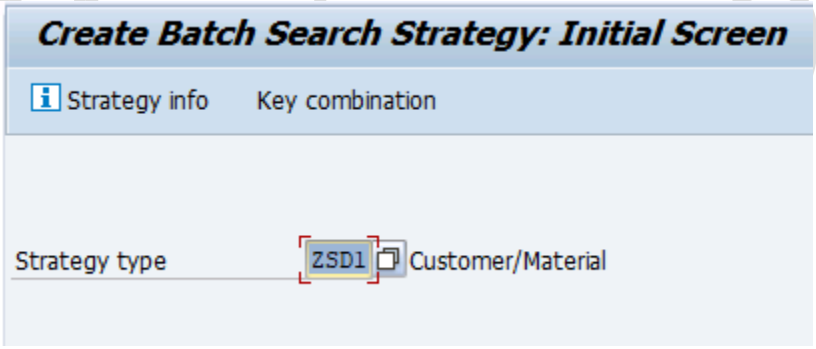


Sales order: 15065 created.

Batch determination strategy:

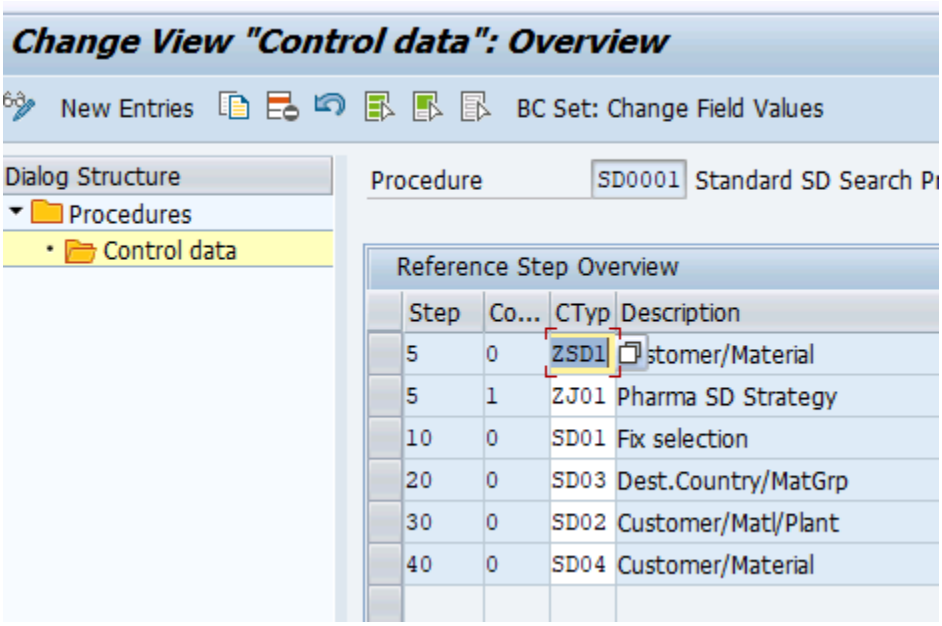


Tcode: VCH1

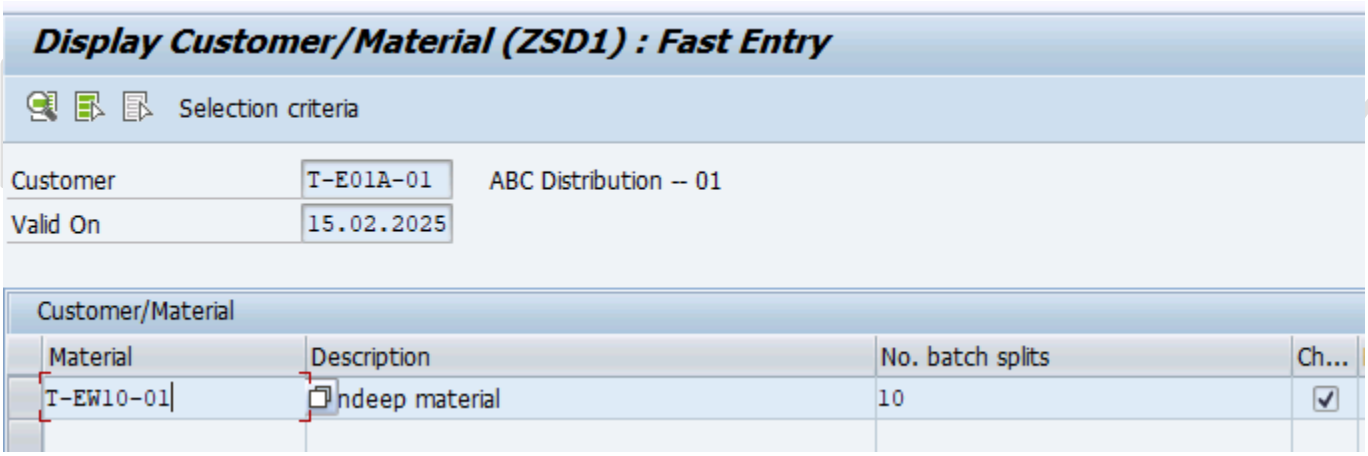


STRATEGY type: ZSD1

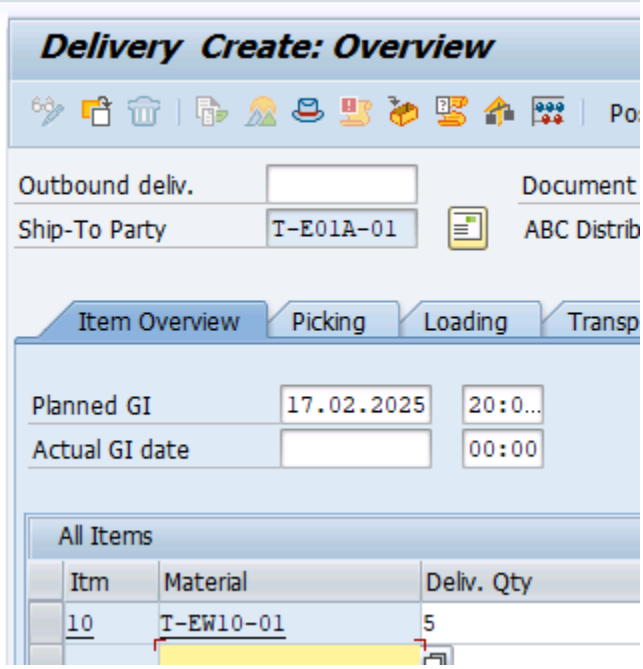
Batch search procedure:SD0001



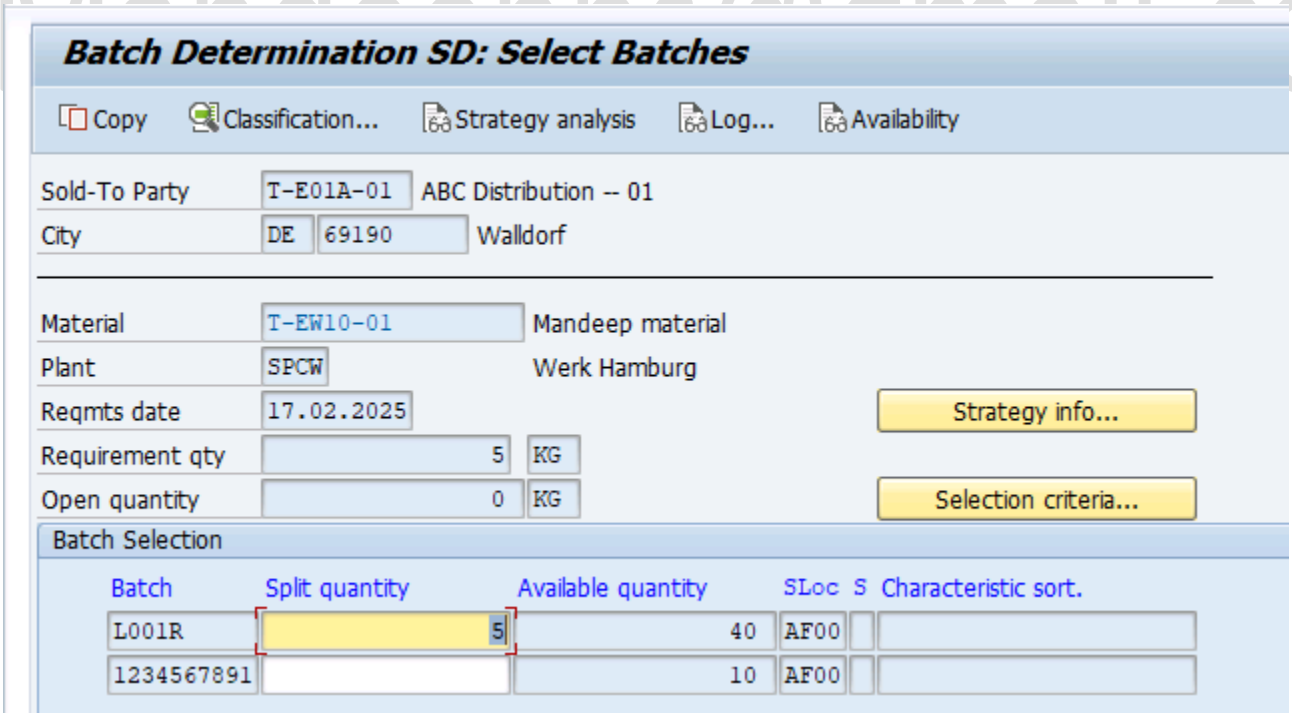
Condition records saved:



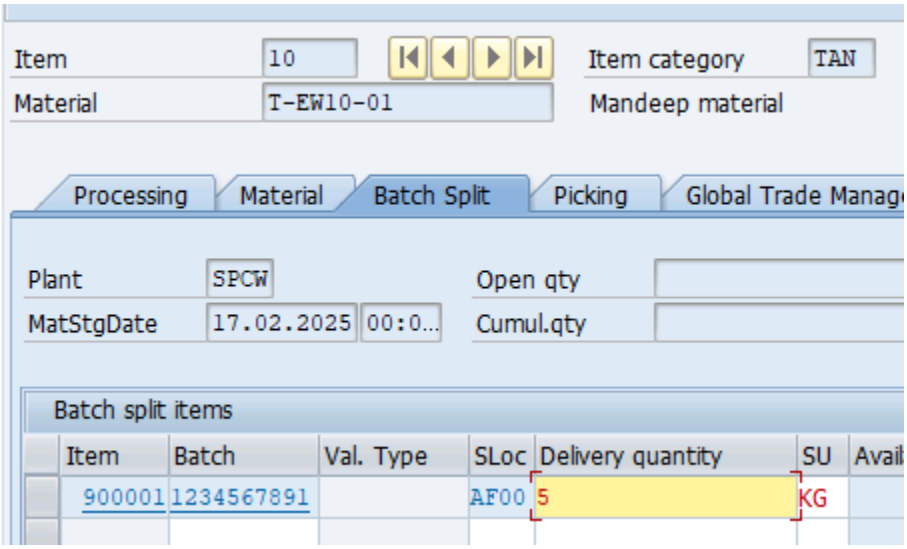
Create outbound delivery



Batch determination found batches :



Batch copied



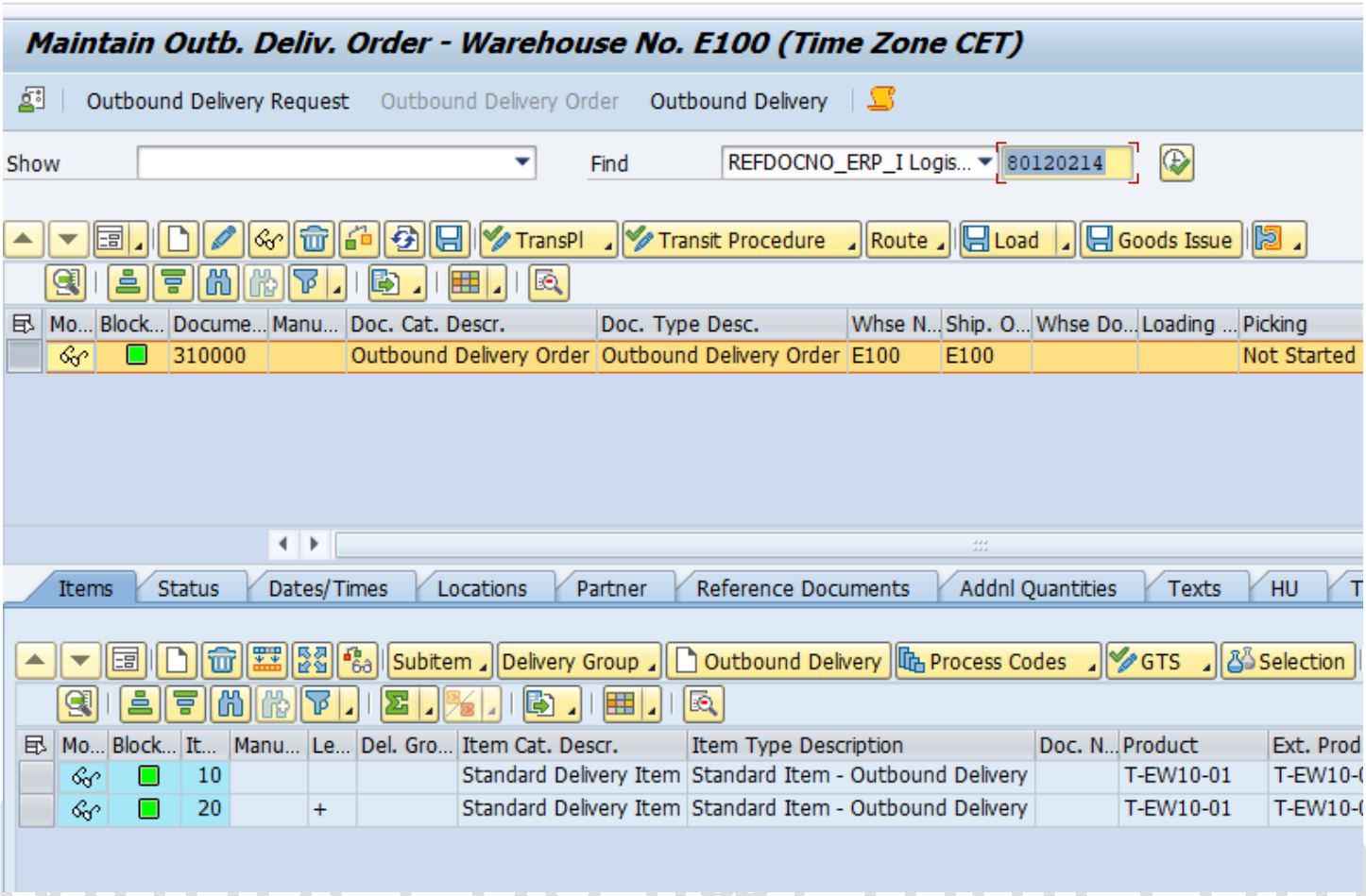
Delivery: **80120214 created.**

Create warehouse task

Tcode: /scwm/prdo or monitor

EWM delivery order:31000 created

Mandeepps@gmail.com

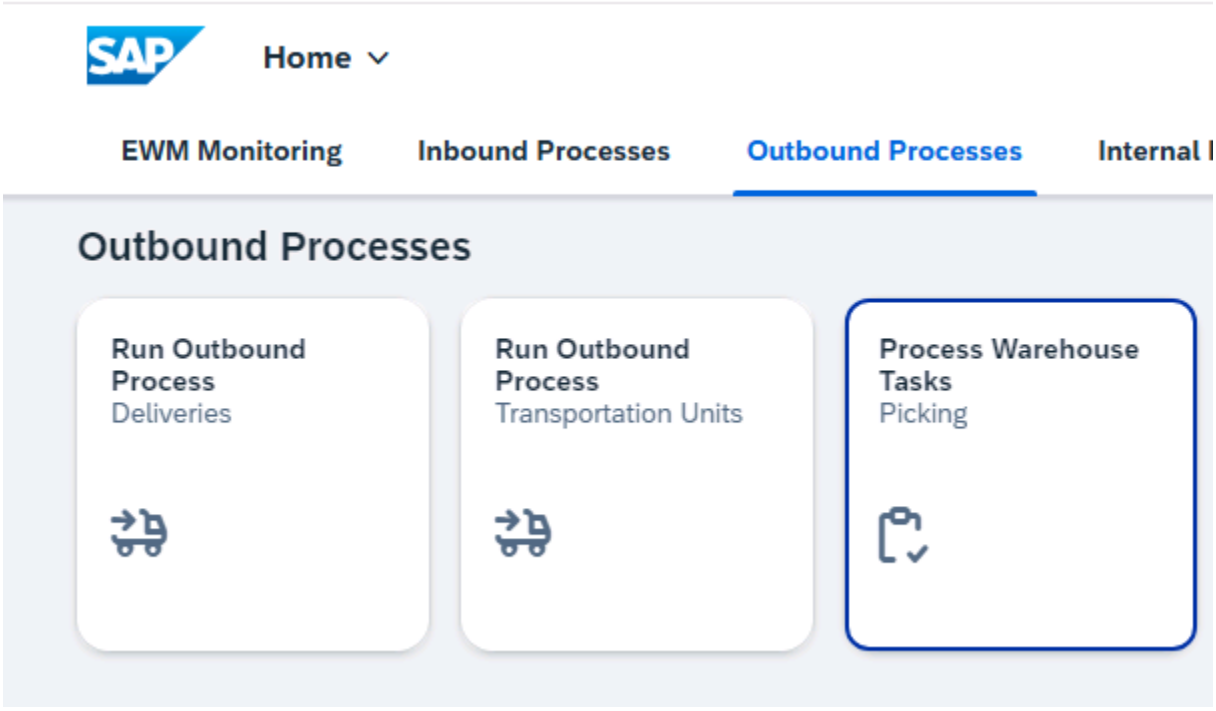


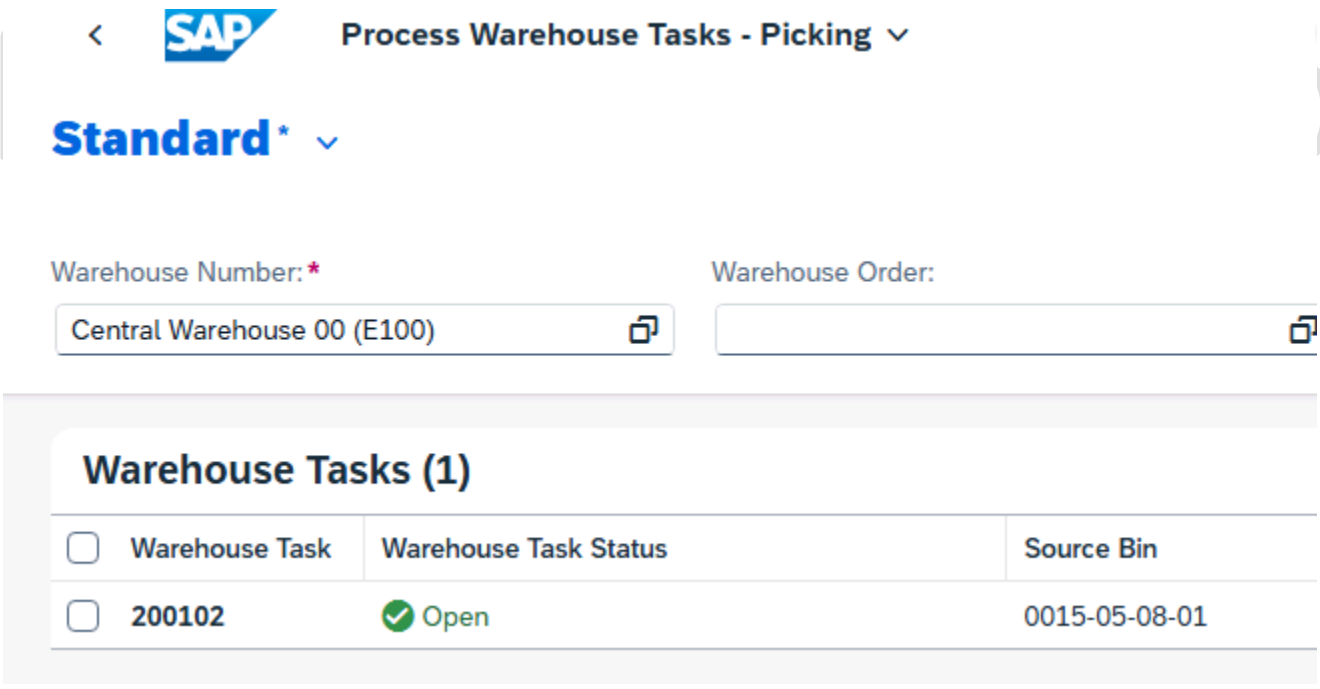
Mandeepps@gmail.com

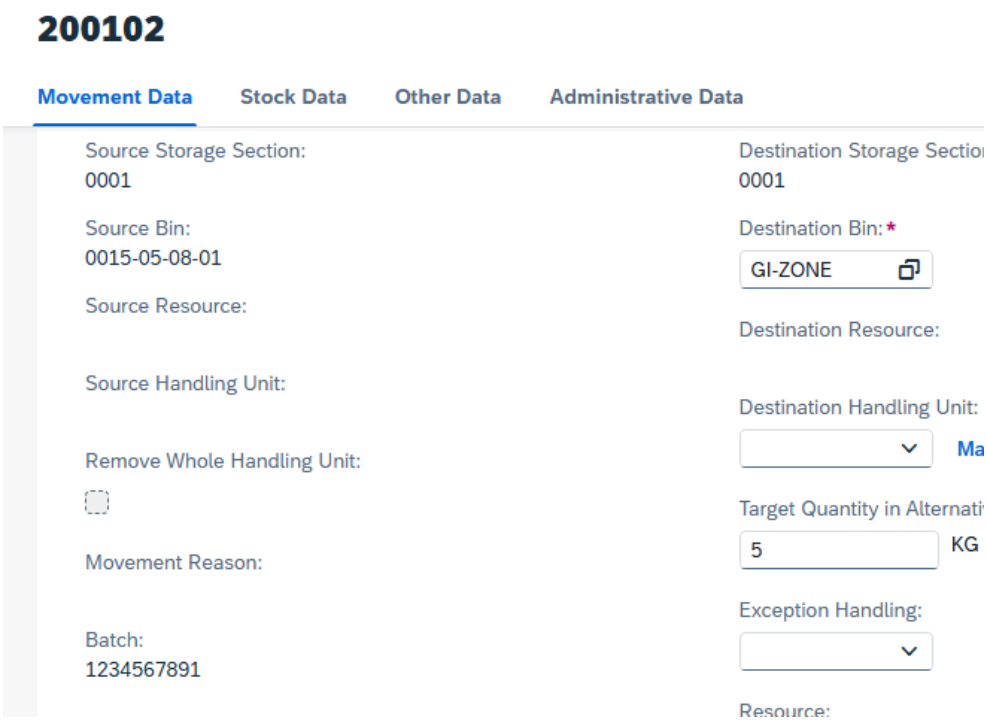
Task gets created manually:

Warehouse task confirmation.

Open task: 200102 via Fiori app


Home
EWM Monitoring
Inbound Processes
Outbound Processes
Internal I
Outbound Processes
Run Outbound Process
Deliveries
Run Outbound Process
Transportation Units
Process Warehouse Tasks
Picking

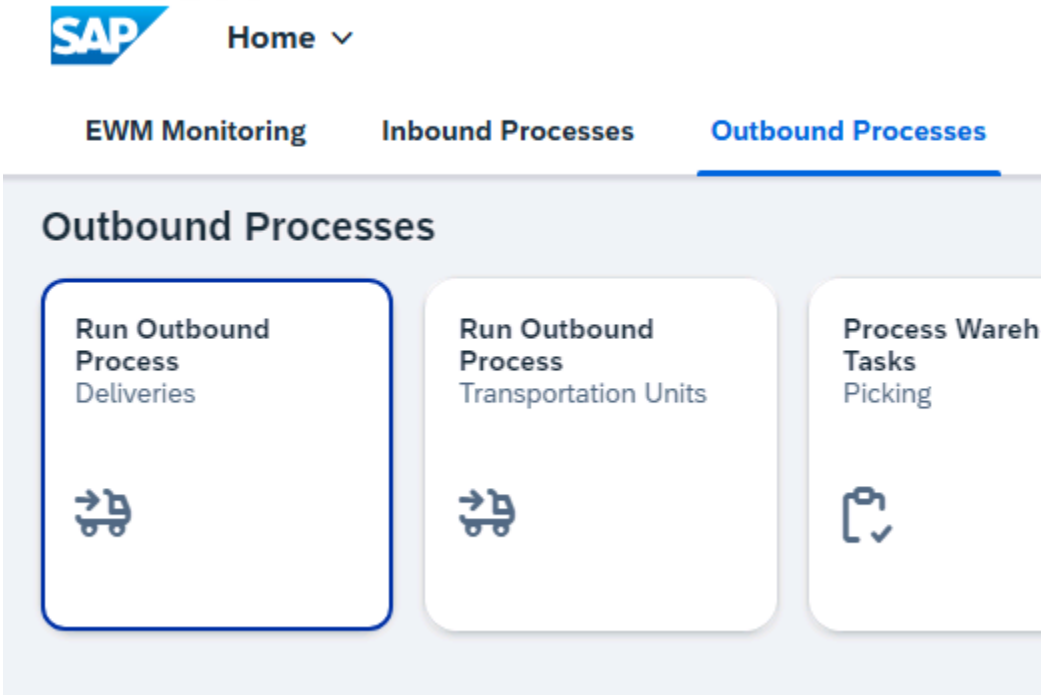

Process Warehouse Tasks - Picking
Standard*
Warehouse Number:*
Central Warehouse 00 (E100)
Warehouse Order:
Warehouse Tasks (1)
Warehouse Task
Warehouse Task Status
Source Bin
200102
Open
0015-05-08-01



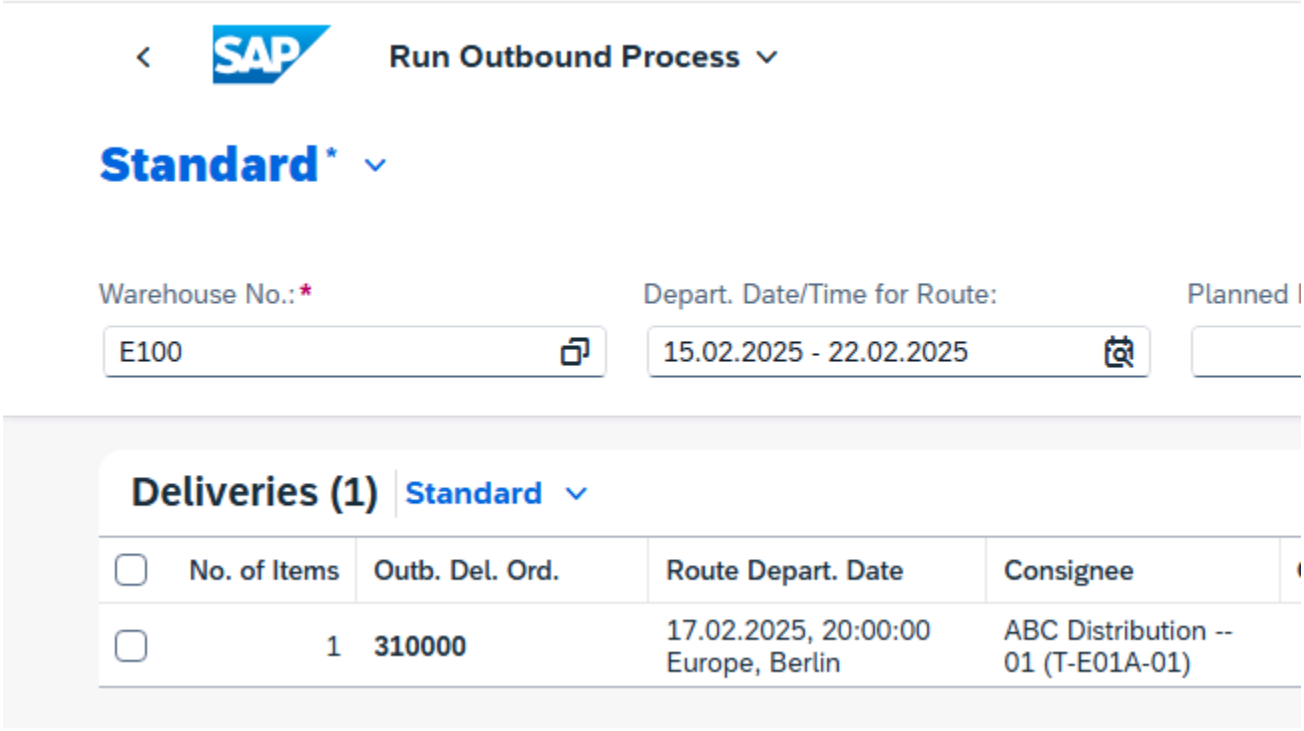
Task is confirmed and 5 qty gets picked and now do manual goods issue and 5 qty would get reduced

Go to Run outbound fiori app

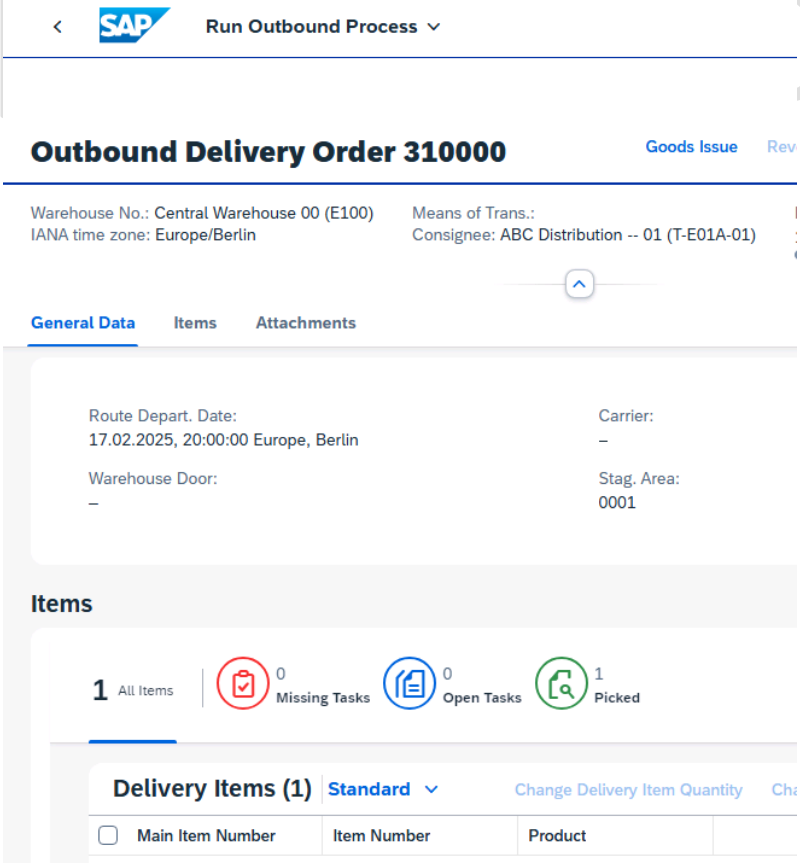
Mandeepps@gmail.com



--

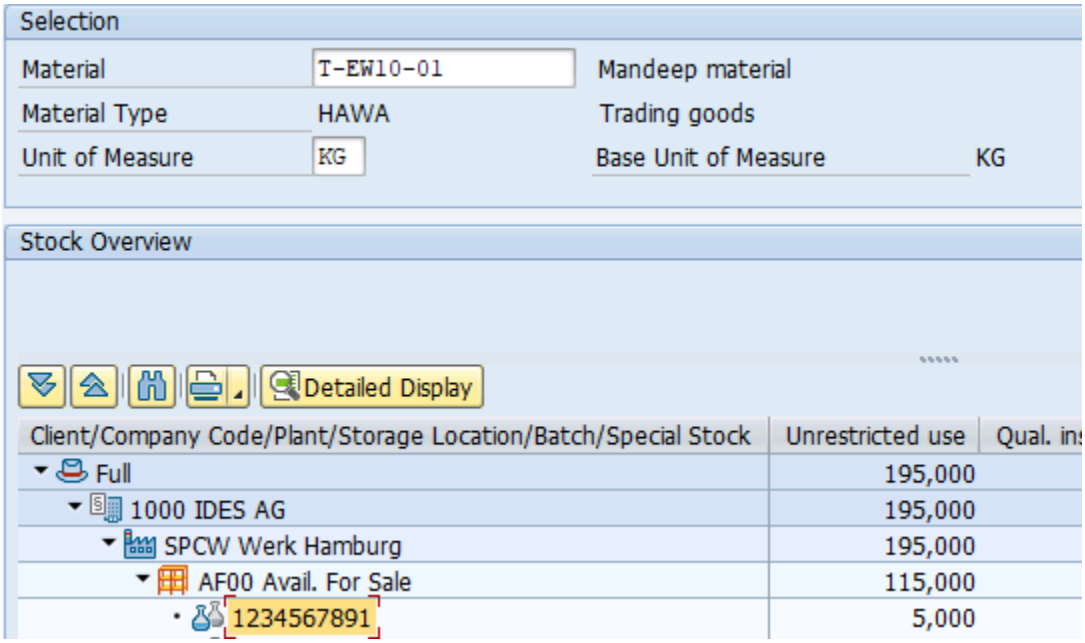


Clicked on goods issue .

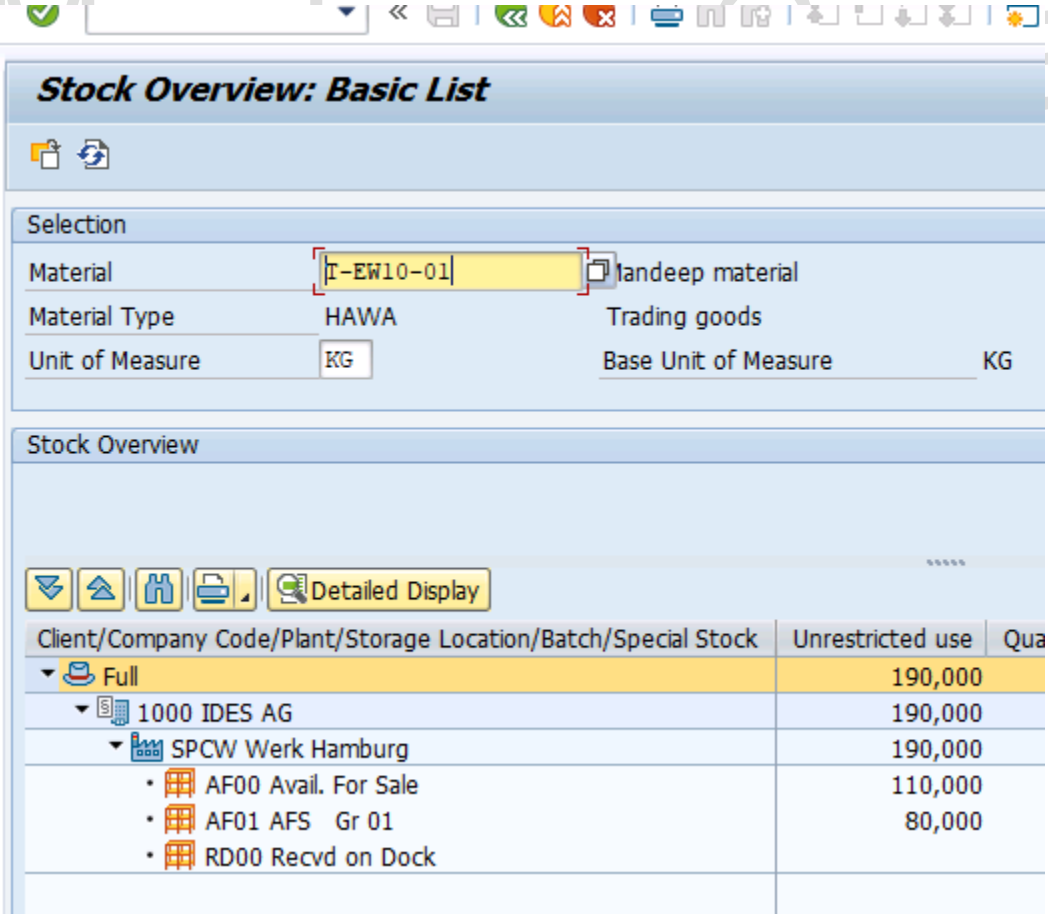


Only 5 qty remains for this batch now

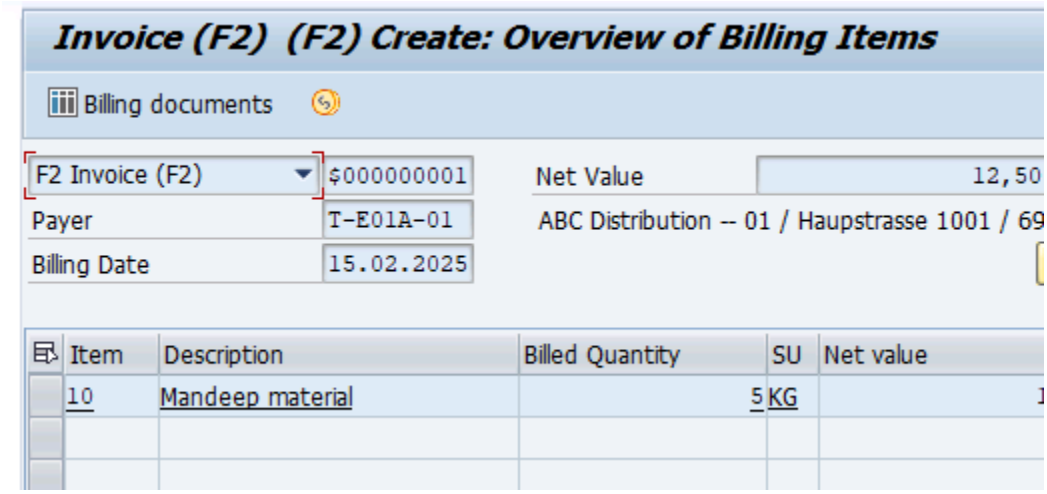
Before goods issue:



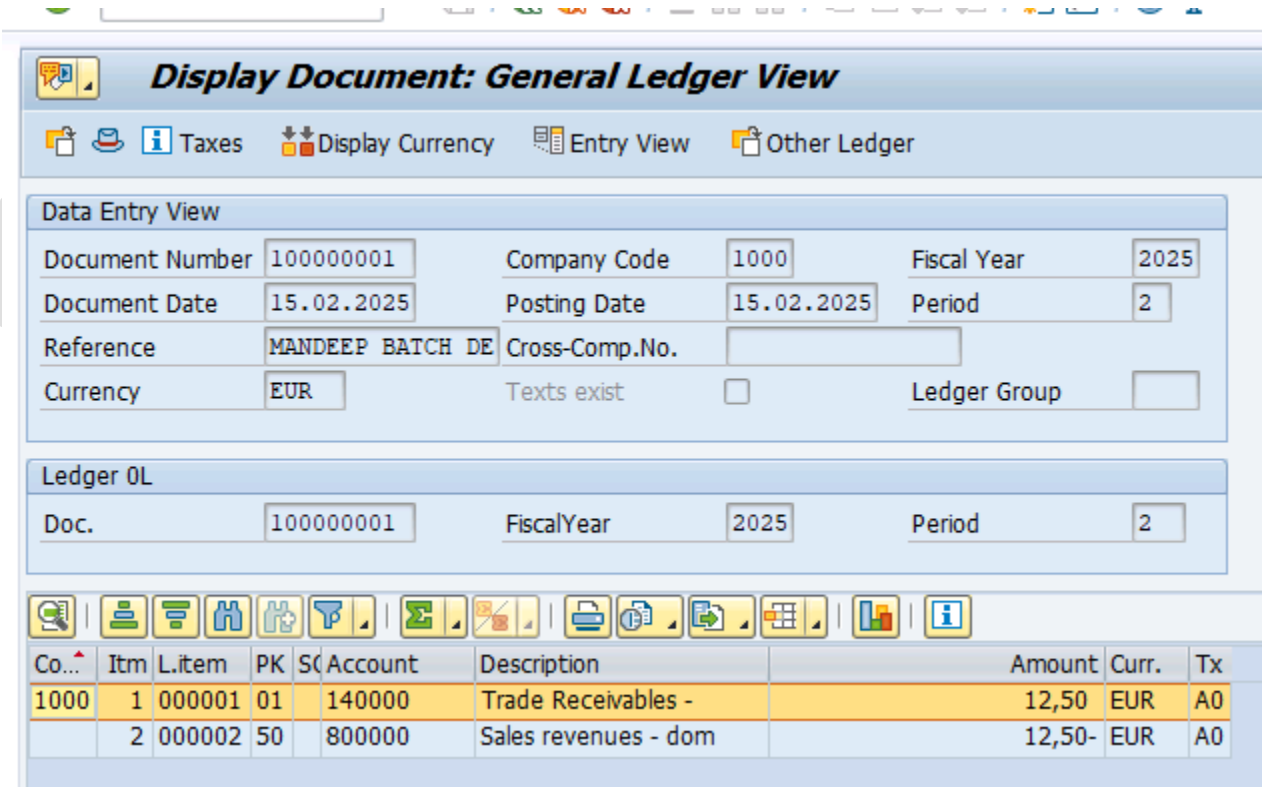
After goods issue



Invoice posted : F2 document



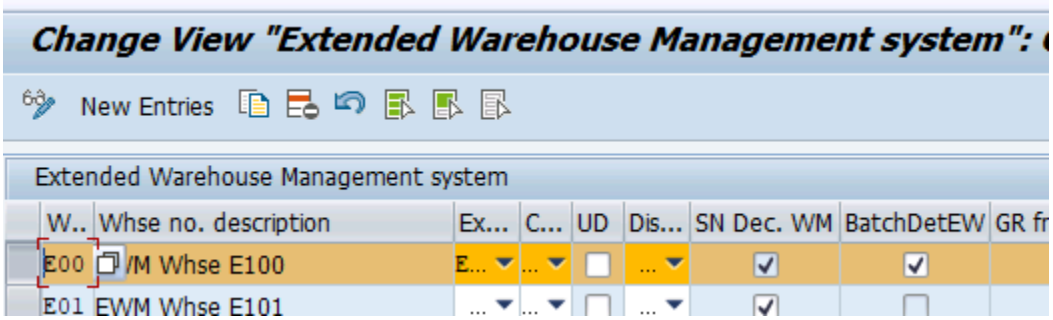
Accounting document posted.



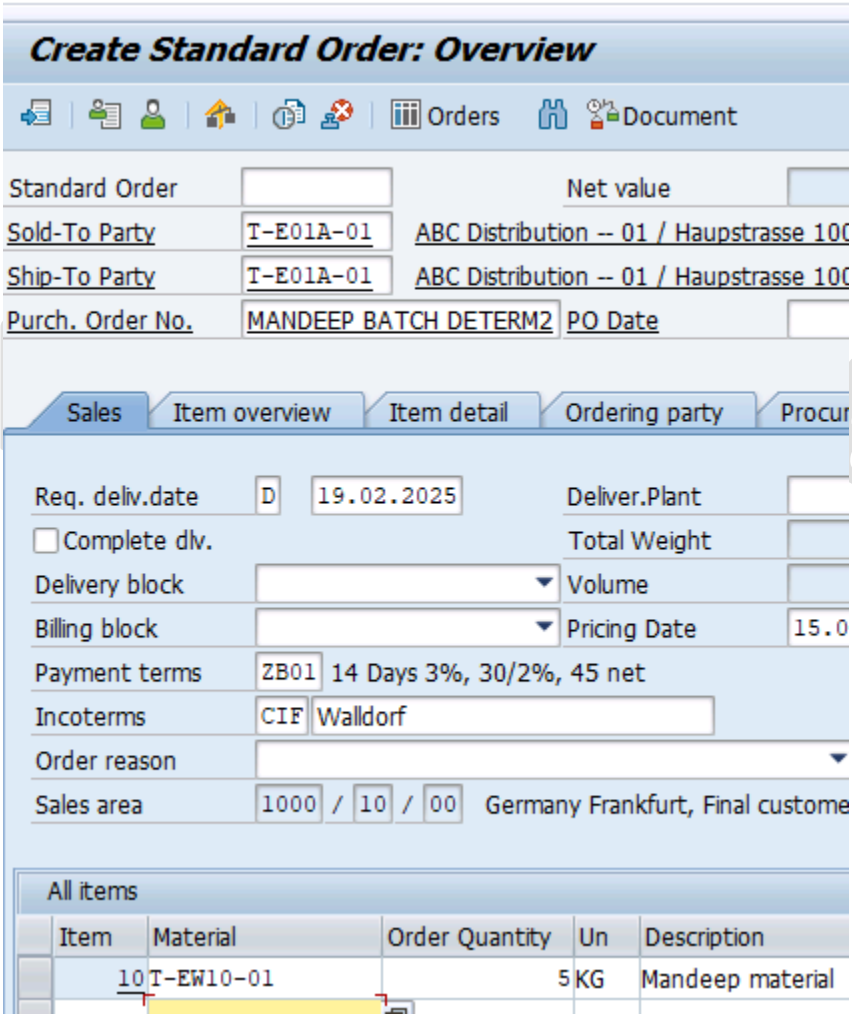
Revenue account(p/l) 800000 has credit entry and AR account (B/S) 140000 has debit entry

Setting changed to determine batch only in EWM

Logistics Execution → SAP EWM Integration → Basic Setup of Connectivity → Configure SAP EWM-Specific Parameters.

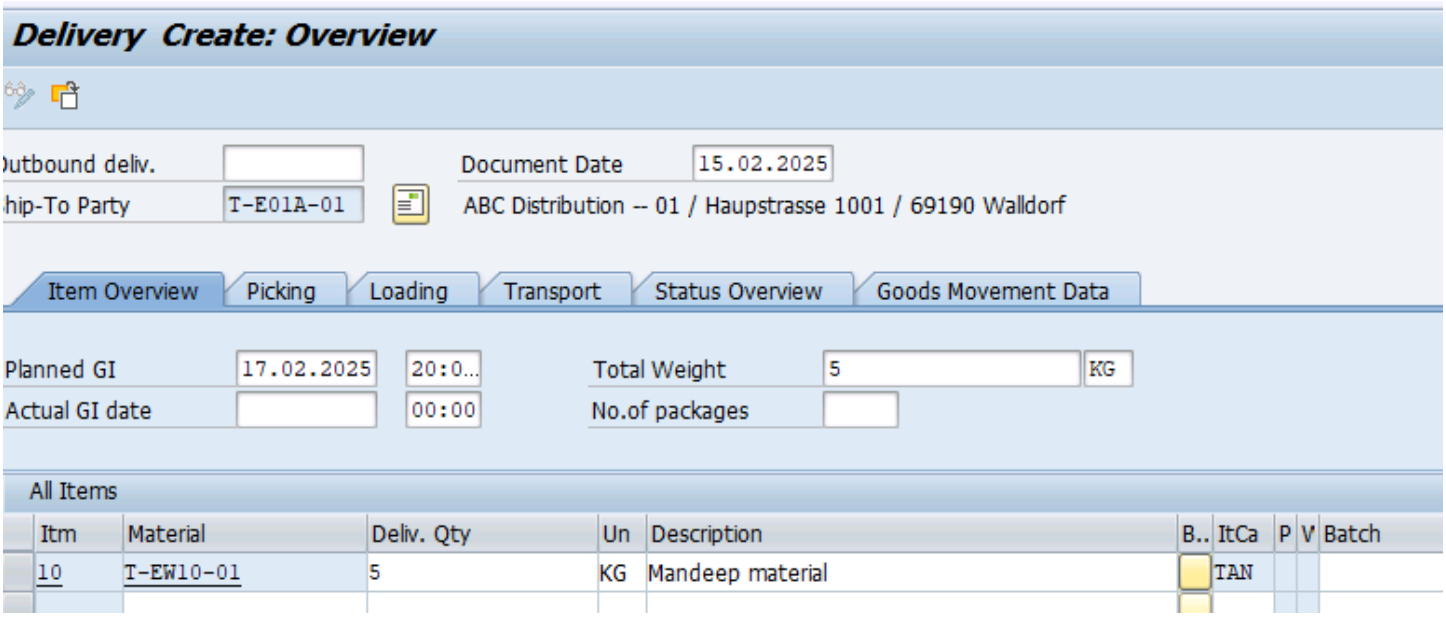


Create Sales order

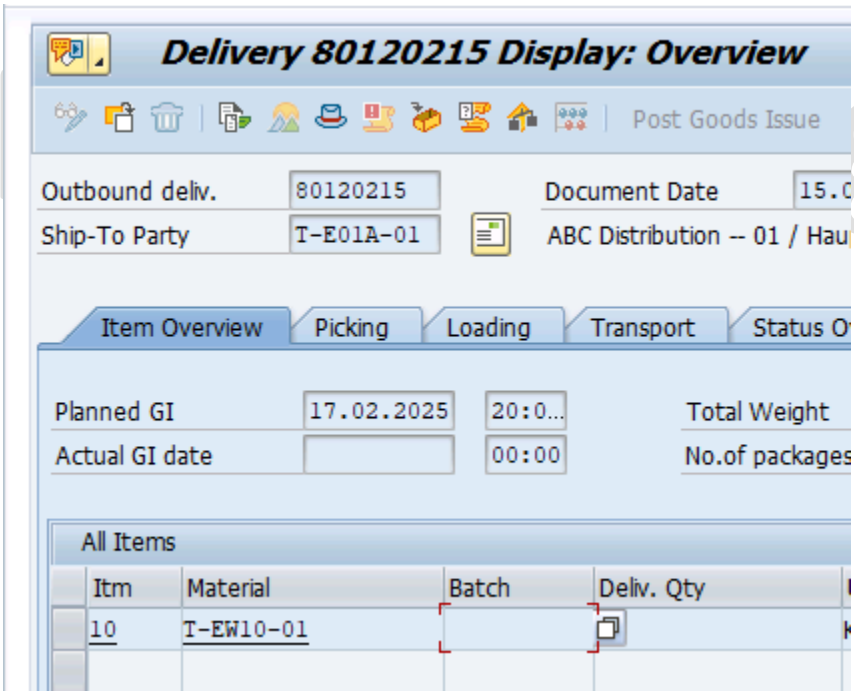


gmail.com

Create outbound delivery



Batch blank in outbound delivery

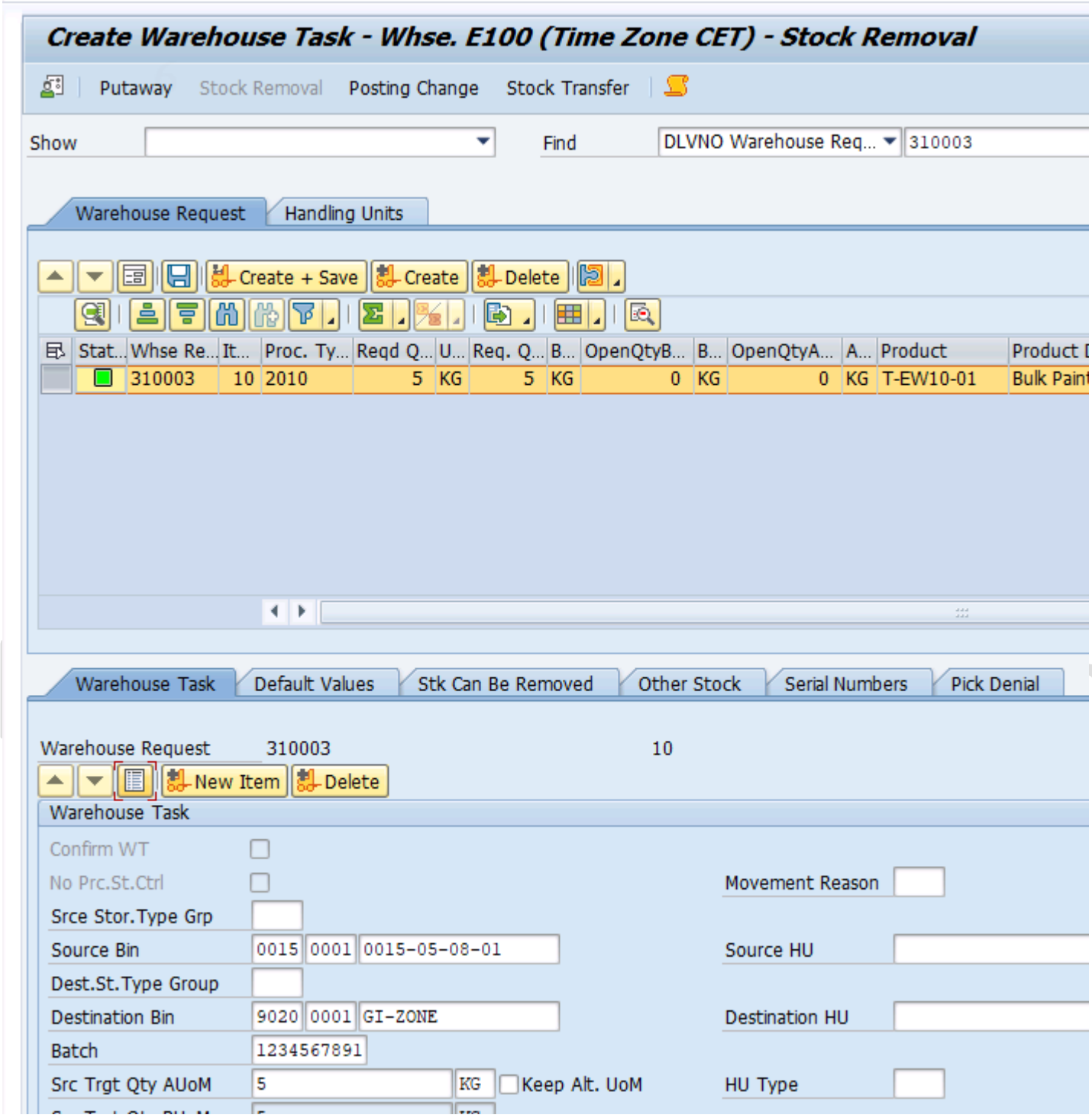


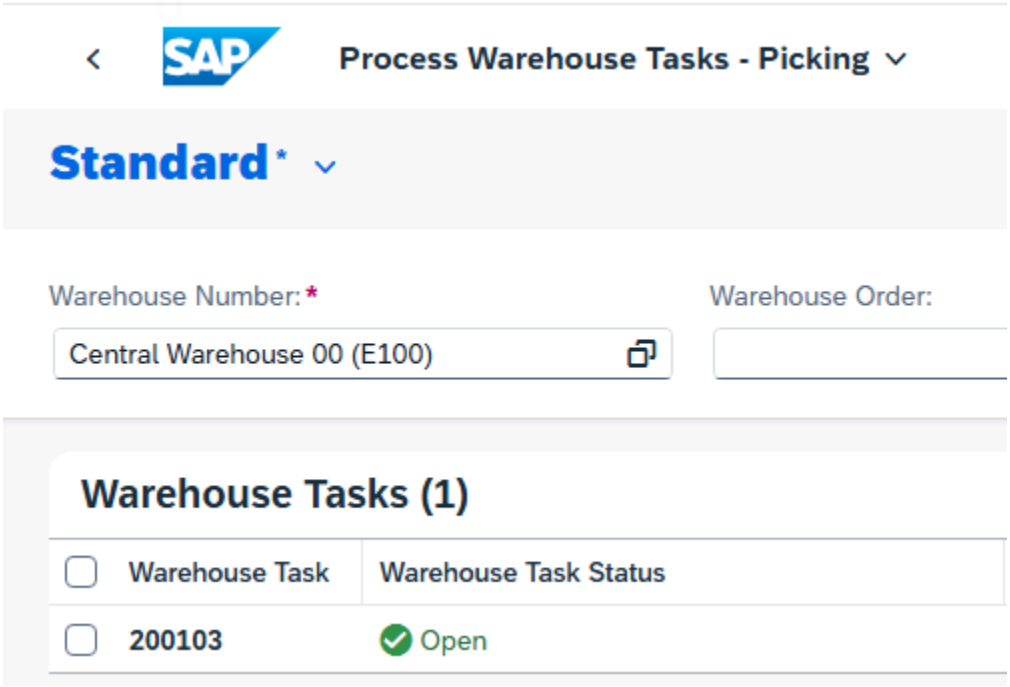
Create warehouse task

Ewm delivery : 310003 created

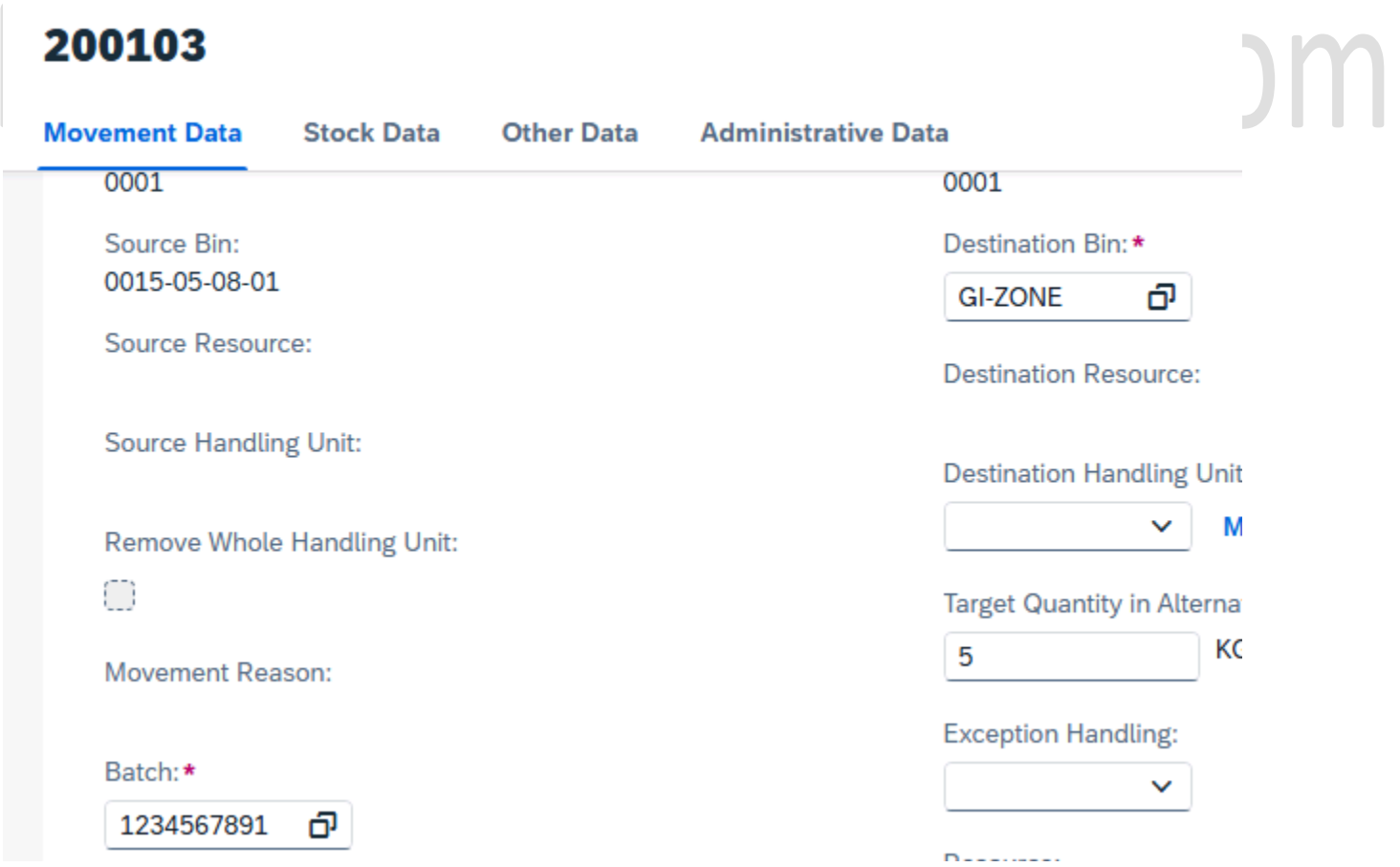
Batch got determined successfully in wareshouse task

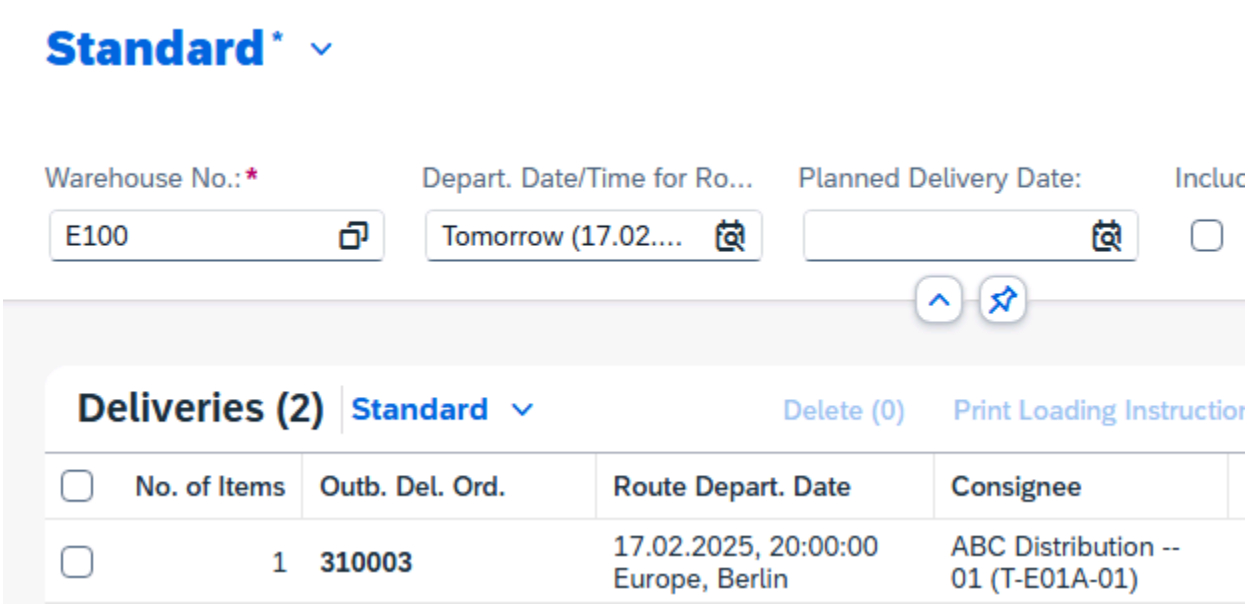
gmail.com


Create Warehouse Task - Whse. E100 (Time Zone CET) - Stock Removal
Putaway
Stock Removal
Posting Change
Stock Transfer
Show
Find
DLVNO Warehouse Req...
310003
Warehouse Request
Handling Units
Create + Save
Create
Delete
Stat...
Whse Re...
It...
Proc. Ty...
Reqd Q...
U...
Req. Q...
B...
OpenQtyB...
B...
OpenQtyA...
A...
Product
Product D
310003
10
2010
5
KG
5
KG
0
KG
0
KG
T-EW10-01
Bulk Paint
Warehouse Task
Default Values
Stk Can Be Removed
Other Stock
Serial Numbers
Pick Denial
Warehouse Request
310003
10
New Item
Delete
Warehouse Task
Confirm WT
No Prc.St.Ctrl
Movement Reason
Srce Stor.Type Grp
Source Bin
0015
0001
0015-05-08-01
Source HU
Dest.St.Type Group
Destination Bin
9020
0001
GI-ZONE
Destination HU
Batch
1234567891
Src Trgt Qty AUoM
5
KG
Keep Alt. UoM
HU Type

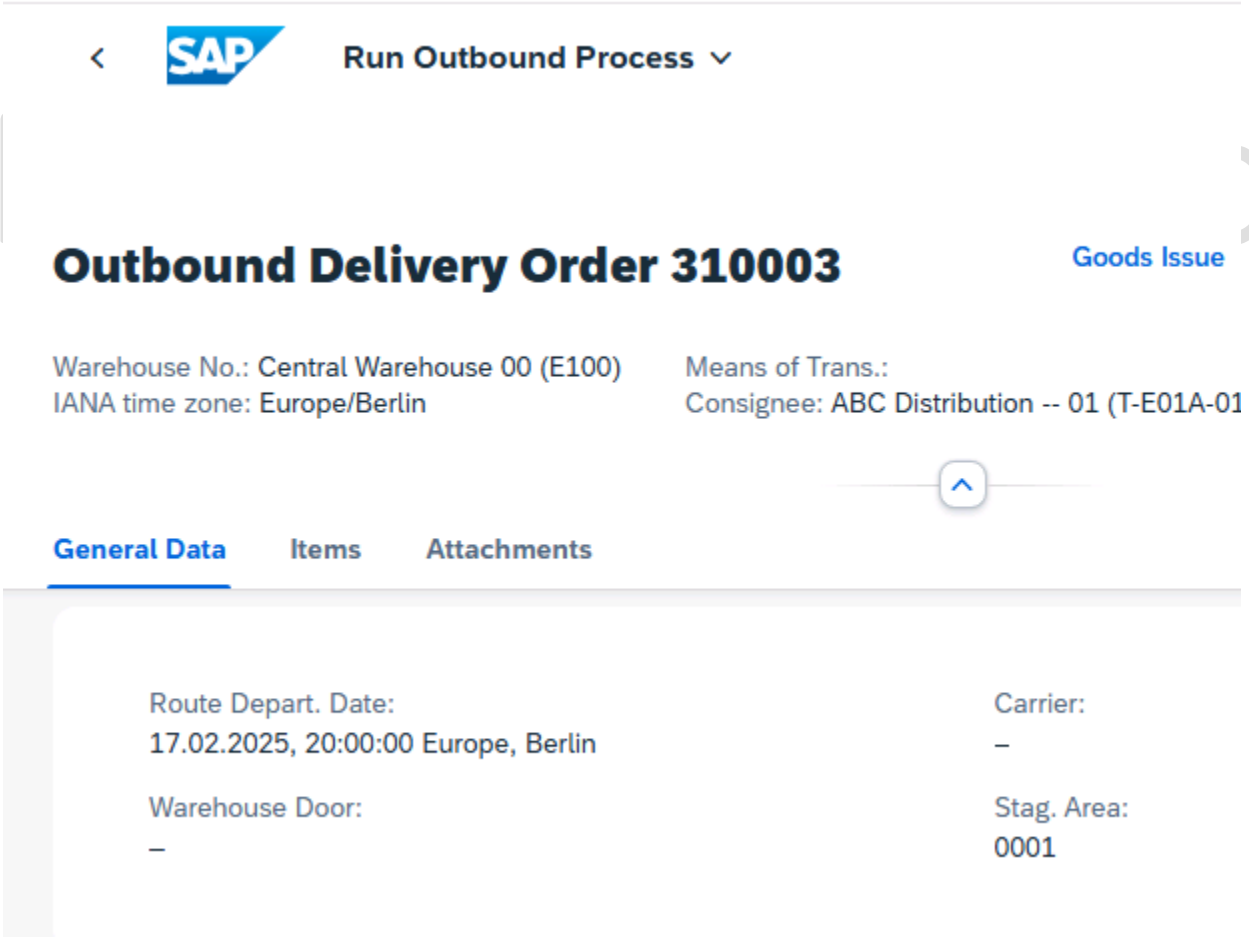


Warehouse task confirmation.

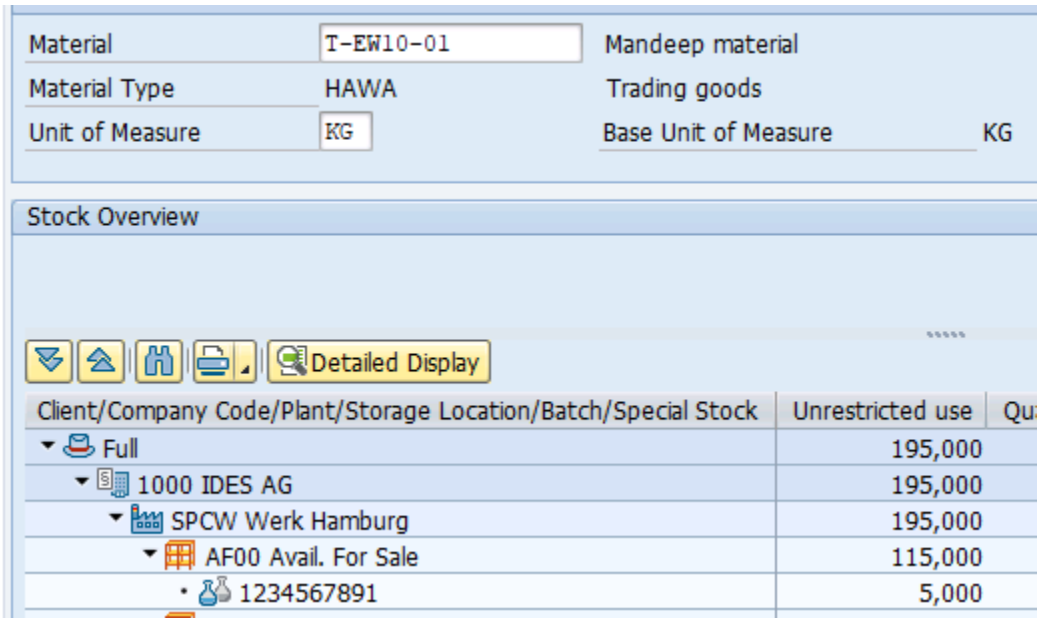




Goods issue completed



And stock got reduced in MMBE in SAP S/4 hana



Prepared by
Mandeep Pal Singh
M +61 452 374 580
Email: Mandeepps@gmail.com
HCL Tech

Mandeepps@gmail.com