

Warehouse Management (WM)

This document is intended to help instructors understand the case study process and manage the learning process in and outside the classroom. The main focus lies on prerequisites and common tasks such as testing and trouble-shooting.

Product

SAP S/4HANA 2022
Global Bike

Fiori 3.0

Level

Instructor

Focus

Warehouse Management

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Version

4.2

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MOTIVATION

Theoretical lectures explain concepts, principles, and theories through reading and discussion. They, therefore, enable students to acquire knowledge and gain theoretical insights.

In contrast, case studies allow them to develop their abilities to analyze enterprise problems, learn and develop possible solutions, and make sound decisions.

The main objective of the Global Bike case studies in general is for students to understand the concept of integration. These descriptive and explanatory case studies will allow students to understand the importance and the advantages of integrating enterprise areas using an S/4HANA system.

The main goal of this document is to help instructors prepare the SAP system for the Warehouse Management case study process and to support them trouble-shoot problems that might occur during the course.

Beside technical and didactic prerequisites, the lecturer notes list SAP transactions for testing and correcting student results in the SAP system. In addition, this document describes common problems and explains their reason and solution.

Prerequisites

Note Before using this case study in your classroom please make sure that all technical (month-end closing, user management etc.) and didactic prerequisites are fulfilled. Such prerequisites are briefly pointed out below. Detailed documentation can be displayed at and downloaded from the *Learning Hub of SAP UA* or the *UCC web sites*.

Technical Prerequisites

The Warehouse Management case study is based on a standard SAP S/4HANA client with the current Global Bike dataset. Before processing the case study on your own or with your students all general setting should be checked.

This includes **month-end closing** in Materials Management (transaction **MMPV**) which is documented on the UCC web sites.

Month-end closing in
MM
MMPV

Note: With the current version of the Global Bike client a **year-end closing** is not necessary, because it has already been automated or because it is not needed for the process described in the curriculum material.

Year-end closing

User accounts in the SAP system need to be created or unlocked.

User management

These student user accounts should end with a three-digit numeric number (e.g. LEARN-001, LEARN-002 etc.). This number will be represented by ### in the case study and helps differentiate customer accounts, products etc.

In an SAP S/4HANA Global Bike client already exist 1000 user accounts from **LEARN-000** to **LEARN-999**. These users need to be unlocked. The initial password for each LEARN-### account is set to **tlestart**.

LEARN-000 to
LEARN-999

tlestart

Transaction **ZUSR** was developed in the Global Bike client in order to mass maintain SAP user accounts. For a detailed description of this and SAP standard transactions for user management (**SU01** and **SU10**) please refer to the *lecturer notes "User Management"* (see: current Global Bike curriculum → chapter 99 – Instructor Tools).

ZUSR

SU01
SU10

All LEARN-### user accounts have been assigned to the role **Z_UCC_GBI_SCC** and have authorizations to use all applicative transactions in the SAP S/4HANA system. The role allows access to all transactions necessary for Global Bike exercises and case studies. If you need access to system-critical transactions, i.e. for development purposes, you may assign the composite profile **SAP_ALL** to your student accounts.

It is useful for the instructor to have a user account available for testing that has the same authorizations as the student accounts. You may use the predefined instructor account **LEARN-000** for this purpose.

Instructor account
LEARN-000

Didactic Prerequisites

In order to successfully process this case study, students should be familiar with the **navigation** in SAP systems, especially the SAP Easy Access menu, the SAP transaction concept as well as possible documentation and help options. We highly recommend using the *navigation slides* and the *navigation course* (see: current Global Bike curriculum → chapter 2 – Navigation).

Navigation

In addition, it has been proven beneficial that students have a thorough understanding of the **historic background** and the enterprise structure of the Global Bike concern before they start working on the SAP system. For this purpose we recommend the *case study „Global Bike Inc.“* (see: current Global Bike curriculum → chapter 3 – Global Bike).

Company background

Because the case study is not based on the exercises, it is not necessary to have processed the WM exercises before you start with the case study. However, it is recommended.

In order to function properly this case study needs a **Global Bike client version** that is equal to or higher than the case study version (see cover page). Please check. If you do not know the client version please use the transaction **ZGBIVERSION** within your SAP S/4HANA system or contact your UCC team.

Global Bike client
version

Global Feedback

Do you have any suggestions or feedback about Global Bike? Please send it to our new email-address **gbi@ucc.ovgu.de** which is used to gather feedback globally. All emails will be evaluated by the persons responsible for the curriculum bi-weekly. This way your feedback might influence future releases directly.

Please note that any support requests send to this email-address will be ignored. Please keep using the common support channels for your support requests.



Student Assessment

Note With the app described below you can check and correct master and transactional data that your students have created during your course.

Global Bike Monitoring Tool (beta)

We are developing a Global Bike Monitor, which is available for the SD case study.

A detailed tutorial for this tool is available in the module *99 Instructor Tools* of the current Global Bike curriculum.

Please keep in mind that this transaction is an additional functionality designed by the UCC Magdeburg and still in development. Therefore, we kindly ask you to send any feedback or detailed error descriptions to the following address: **gbi@ucc.ovgu.de**



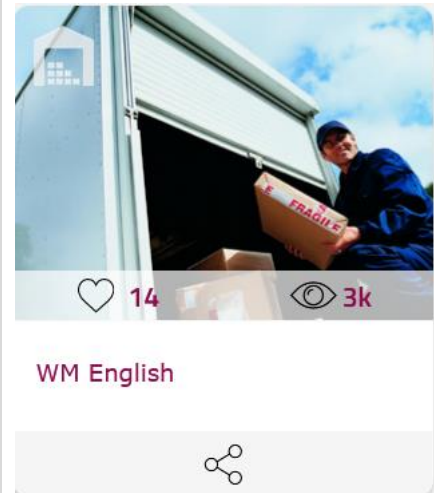
Learning Snacks WM

Note With the Learning Snacks WM you can check your learning success in the module WM.

What is Learning Snacks ?

Learning Snacks offers the possibility to check the knowledge gained during the case studies and exercises by means of small single-choice questions. Depending on the selected module, you can play through a Learning Snacks (WM here). Learning Snacks can be used with or without prior registration. By having your own account, you can create snacks yourself, like other snacks and receive some kind of points for each question you answer correctly.

You can find detailed instructions on Learning Snacks in the module "98 Cross-Module".




Process Monitoring

Valid for: WM I, WM II, WM III

Note During the case study the SAP system creates documents which are automatically logging all business process steps. These documents rely on master data that were either predefined by the curriculum development team or created by your students.

Display Document Flow

Document flow

Open the *Material Document Overview* app using the search . You can use the app to find all material documents and jump to subsequent documents.



In the view *Material Documents Overview*, use the field *Material* as the preferred search criterion. Add further criteria as required.

Case Study

Material

WM I	KPAD1### EPAD1###
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WM II	DXTR1###
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WM III	PRTR2###
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For example, search for WM I documents on knee pads. Open the document to view detailed information.

SAP Material Documents Overview

Standard* ▾

Stock Change: * All ▾ Plant: Storage Location: Stock Type:

Material Document: Material Document Year: Material: Posting Date:

Document Date:

Adapt Filters (3) **Go**

Material Documents (1)

Material Document	Material Document Year	Material	Plant	Storage Location	Posting Date	Stock Type
5000000010	2022	Knee Pads (KPAD1000)	DC San Diego (SD00)	Trading Goods (TG00)	04/20/2022	Unrestricted-Use Stock (01)

In the material document view, navigate to the process flow area. There you can find further apps for the documents and thus have additional evaluation options.

SAP Material Document

5000000010 2022 Reverse Related Apps

General Information Items **Process Flow** Attachment

Process Flow Diagram:

```

graph LR
    PD[Purchasing Document  
4500000002  
OK] -- "2 Item(s)" --> MD[Material Document  
5000000010  
OK  
2022]
    MD --> AD[Accounting Document  
5000000001]
  
```

5000000010
[Display Document Flow](#)
More Links

Problem: Review Transfer Orders

Valid for: WM I, WM II, WM III

Symptom You would like to check the transfer orders of your participants.






Reason The material inventory or the material inventory value seems to be wrong because the confirmation of a transfer order is missing.

Solution Check the transfer orders and confirm them if necessary.

Solution

Use the *Document Overview* app (in the Warehouse Supervisor role) to get an overview of open or confirmed transfer orders.

Warehouse Supervisor

Display Stock Overview 	Create Outbound Deliveries From Sales Orders 	Change Outbound Delivery 	Run Bin Status Report 	Display Warehouse Stock 
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[Display Outbound Delivery](#)
[Change Warehouse Master Record](#)
[Document overview](#)
[Display Storage Bin](#)
[Display Quants](#)


[Display storage unit](#)
[Display Transfer Order](#)
[Manage Product Master Data](#)


In the *Transfer Order: List of Resident Documents* screen, enter **100** as *Warehouse number*. Within the areas *Confirmation status* and *Program parameters* you may filter the transfer orders by status and date.

100

< **SAP** Transfer Orders: Resident Documents Q ? TT


Save as Variant... More Exit


* Warehouse number: to: 


Transfer order: to: 


Program Parameters

Only Open Transfer Orders: ☐

Transfer Order Date: to: 

Name of Processor: to: 

Requirement Type: to: 

Requirement Number: to: 

Afterwards please execute the report by pressing F8 or **Execute**.



Problem: Check the amount of ordered goods

Valid for: WM I, WM II, WM III

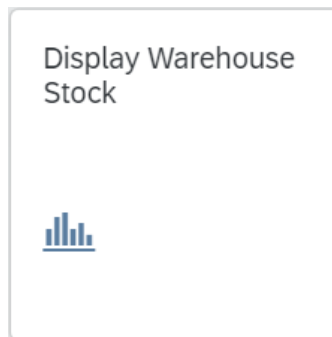
Symptom The material inventory or the material inventory value seems to be wrong.

Reason Shortage of goods could be an indicator for input or typing errors during the creation of purchase orders.

Solution Check if your participants ordered a wrong amount of goods.

Warehouse Stocks of Material

Use the app Display Warehouse Stock to get an overview of the stock levels, as well as their value, for a specific material.



SD00

In the *Display Warehouse Stocks of Material* screen, enter **SD00** as *Plant* and use the following materials for each case study.

Case Study

Material

WM I

KPAD1XXX bis KPAD1YYY

WM II

DXTR1XXX bis DXTR1YYY

WM III

PRTR2XXX bis PRTR2YYY

Afterwards please execute the report by pressing F8 or **Execute**.

Problem: Missing storage bins

Valid for: WM II, WM III

Problem The storage bins STBN-7-### and STBN-9-### don't exist.

Reason The storage bins weren't created.

Solution Create the storage bins automatically

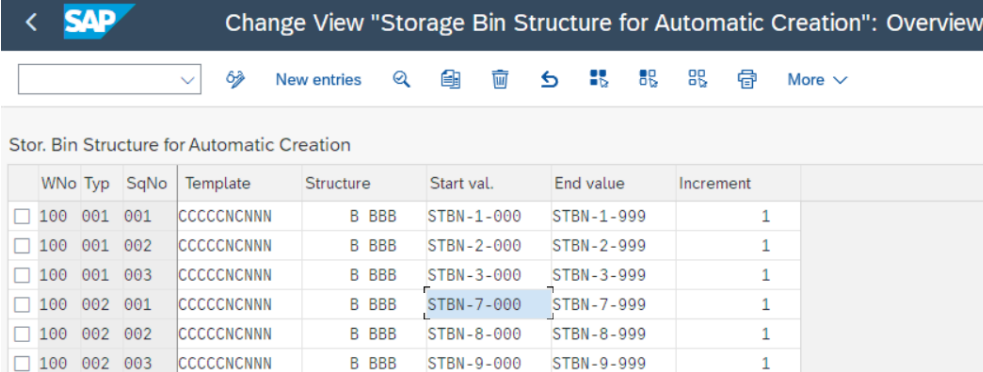
Storage Bin Structure for Automatic Creation

Please use the transaction **LS10** to get an overview about the storage bin structure

LS10

In the *Change View "Storage Bin Structure for Automatic Creation": Overview* click twice on the row for your *STBN-7-###* storage bins.

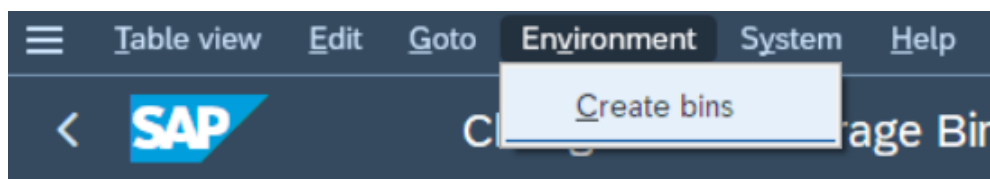
STBN-7-###



The screenshot shows the SAP LS10 transaction in the 'Overview' view. The title bar reads 'Change View "Storage Bin Structure for Automatic Creation": Overview'. Below the title bar is a search bar and a toolbar with icons for 'New entries', search, print, delete, undo, redo, and 'More'. The main table is titled 'Stor. Bin Structure for Automatic Creation' and contains the following data:

WNo	Typ	SqNo	Template	Structure	Start val.	End value	Increment
<input type="checkbox"/> 100	001	001	CCCCCNCNNN	B BBB	STBN-1-000	STBN-1-999	1
<input type="checkbox"/> 100	001	002	CCCCCNCNNN	B BBB	STBN-2-000	STBN-2-999	1
<input type="checkbox"/> 100	001	003	CCCCCNCNNN	B BBB	STBN-3-000	STBN-3-999	1
<input type="checkbox"/> 100	002	001	CCCCCNCNNN	B BBB	STBN-7-000	STBN-7-999	1
<input type="checkbox"/> 100	002	002	CCCCCNCNNN	B BBB	STBN-8-000	STBN-8-999	1
<input type="checkbox"/> 100	002	003	CCCCCNCNNN	B BBB	STBN-9-000	STBN-9-999	1

In the detail view choose Environment → Create Bins.



In the view *Automatic Creation of Storage bins* choose

[Create Storage Bins Online](#)

You will get a success message after the bins were created.

Repeat this process for the storage bins *STBN-9-###*.

STBN-9-###



Problem: Review the storage bins

Valid for: WM I, WM II, WM III, WM IV

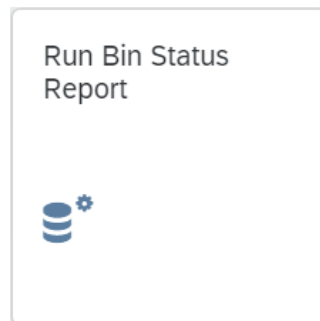
Symptom You would like to check if the materials are stored into the right storage bin. If the participants use the wrong storage bin, they may run into errors on later goods issue.

Reason Incorrect storage bins can be filled due to incorrect entries.

Solution Check the storage bins.

View storage bins

Please use the app *Run Bin Status Report* to check the storage bins of your participants.



In the *Bin Status Report: Initial Screen*, enter **100** as *Warehouse number* and limit the storage bins to ones your participants by restricting the storage bins as follows:

100

Case Study

Lagerplatz

WM I	STBN-1-XXX bis STBN-1-YYY
WM II	STBN-7-XXX bis STBN-7-YYY
WM III und WM IV	STBN-8-XXX bis STBN-8-YYY

Afterwards please execute the report by pressing F8 or **Execute**.

< **SAP** Bin Status Report: Initial Screen

Save as Variant... More ▾

* Warehouse number:

Storage type: to:

Storage bin: to:



Problem: Goods stored into wrong storage bin


Valid for: WM I, WM II, WM III

Symptom The bin status report shows that some goods were stored into a wrong storage bin.

Reason While storing process a wrong storage bin number was entered.

Solution Use a stock transfer order to store the affected goods into the right storage bin.

Stock transfer of goods

Open the *Stock Transfer* app using the search .

Stock Transfer

In the *Stock Transfer: Start* screen enter **100** as *Warehouse number*. Add the following data depending on the selected case study:

100

Fallstudie

Storage Type

WM I und WM III

001 (Shelf Storage)

WM II

002 (Pallet Storage)

Specify the **material to be transferred** (e.g. KPAD1##) and add movement type **999** in the Program control area.

Material
999

The *Specify Destination Data* popup opens. According to your case study, enter the following data as storage type and storage bin:

Case Study	Storage Type	Storage Bin
WM I	001	STBN-1-###
WM II	002	STBN-7-###
WM III	002	STBN-8-###

Independent of the case study, you then enter **001** as the storage area. Check that **999** is selected as the movement type and also select **Confirm immediately**. Then click on Apply.

001
999
Confirm immediately

Specify Destination Data

Storage Type: 001
Storage Bin: STBN-1-000
Storage Section: 001
Storage Unit:
Stor. Unit Type:

Print code:
Printer:
☐ Do not print

* Movement Type: 999
☒ Confirm immed.

Copy Cancel



Problem: Review purchasing documents

Valid for: WM I, WM II

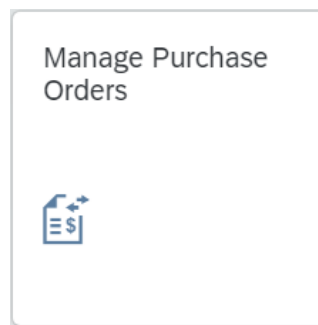
Symptom You would like to compare the purchase orders with the expected results.

Reason Common causes of errors in this case study are misentries by participants.

Solution Review the purchase order documents of your participants to verify that all inputs are correct.

View purchasing documents

Use the *Manage Purchase Orders* app to view your students' purchase receipts.



In the *Manage Purchase Orders* view, you can specify the search by material (e.g. **KPAD1***). Then select **Go** to initiate the search.

KPAD1*

SAP Manage Purchase Orders

Standard* ▾

Search Editing Status: All ▾ Supplier: Purchase Order:

Purchasing Group: Company Code: Status: ▾ Material: KPAD1* x

Plant: Purchase Order Date: Adapt Filters (1) **Go**

Purchase Orders (4) | Standard ▾ Withdraw from Approval Copy Create Delete Hide Draft Values ⚙️ 📄 ▾

Purchase Order	Supplier	Company Code	Status	Approval Status	Approver	Net Order Value
Standard PO 4500000022	Dallas Bike Basics (103007)	Global Bike Inc. (US00)	Follow-On Documents			4,000.00 USD

Overdue Items: 0 Overdue
Purchase Order Date: 06/08/2022

Problem: Insufficient material stock level (Dallas)

Valid for: WM II

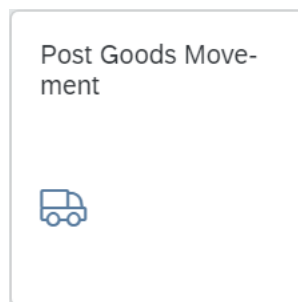
Symptom An insufficient amount of materials on stock lead to the situation that the good issue can't be posted.

Reason Frequent causes for this are, too high order quantities of the participants, repeated execution of the case studies in the same number range and the outsourcing of own material by other participants.

Solution Post the required amount of the material to the corresponding plant.

Posting goods receipt

Open the app *Post Goods Movement*.



In the first drop down menu select **Goods Receipt** and **Other** in the second one. Check if the movement type changed to 501. Afterwards enter the needed material as *Material Short Text*, the needed amount as *Qty in UnE*, the plant you want the material to be delivered as *Plnt* and the storage location you want the materials to be stored to as *SLoc*. For example **DXTR1###** as material **DL00** as plant and **FG00** as storage location.

Goods Receipt
Other

DXTR1###
DL00
FG00

< **SAP** Goods Receipt Other - Teach-000 Teach-000

Show Overview Services for Object ▾ More ▾

A01 Goods Receipt ▾ R10 Other ▾

General

Document Date: 06/13/2022 Material Slip:

Posting Date: 06/13/2022 Doc.Header Text:

☐ 1 Individual Slip ▾

Line	Mat. Short Text	Wa...	OK	Qty in UnE	E... SLoc	G.. Sto...	B... V...	Movement Type	D.. Stock Type	Plnt
	DXTR1000			10	FG00			501		DL00

Then press Enter. Post your goods receipt by clicking **Post**.



Problem: Insufficient material stock level (San Diego)

Valid for: WM III


Symptom An insufficient amount of materials on stock lead to the situation that the good issue can't be posted.

Reason Frequent causes for this are, too high order quantities of the participants, repeated execution of the case studies in the same number range and the outsourcing of own material by other participants.

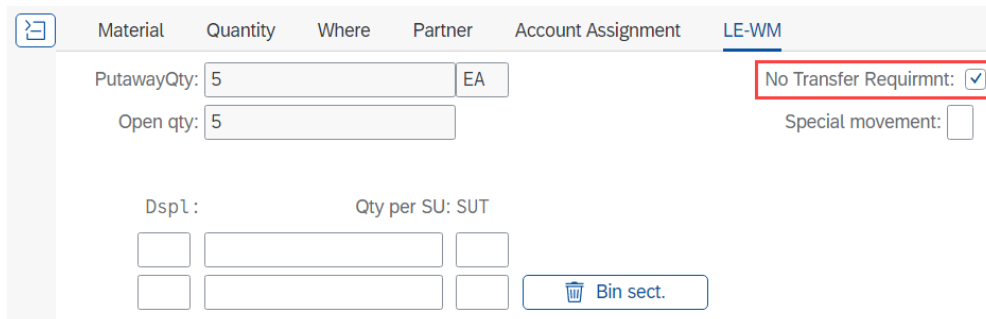
Solution Post the required amount of the material to the corresponding plant.

Posting goods receipt


Because San Diego has a warehouse management system, the quick putaway of materials is implemented differently than in the previous case study.

First, proceed as described in the previous problem case. After you have defined your material (**PRTR2###**), the quantity, the plant (**SD00**) and the storage location (**FG00**), expand the detailed data  **Detail data** in the lower screen area.

Then navigate to the *LE-WM* tab and set the **No transfer requirement** indicator, so that no transfer order is triggered.

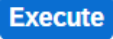



The screenshot shows the SAP LE-WM tab with the following fields and values:

Material	Quantity	Where	Partner	Account Assignment	LE-WM
PutawayQty:	5		EA		No Transfer Requirement: <input checked="" type="checkbox"/>
Open qty:	5				Special movement: <input type="checkbox"/>
Dspl:		Qty per SU:	SUT		
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>			 Bin sect.

Post your goods receipt by clicking .

Store goods

Proceed in the same way as for the problem *Goods stored into wrong storage bin* and store the goods correctly. To do this, use the *Stock Transfer* app. Enter **003** as storage type, **PRTR2###** as material and **999** as movement type. Then start the process with . In the view *Stock Transfer: Overview* you can see that the goods are currently stored in the storage bin WE-ZONE.

Select the corresponding line and then choose  (Stock Transfer Foreground).

003
PRTR2###
999

SAP Stock Transfer: Overview

Whse number 100
Stge type 003

Sl	StorageBin	Material	Plnt	Available stock	BUn	Batch
<input checked="" type="checkbox"/>	WE-ZONE	PRTR2000	SD00	5	EA	

The *Specify Destination Data* popup opens. Enter **002** as *Storage Type*, **STBN-8-###** as *Storage Bin* and **001** as the *storage area*. Check that **999** is selected as the *movement type* and also select **Confirm immediately**. Then click on Apply.

002
STBN-8-###
001
999
Confirm immediately

Problem: Review sales orders


Valid for: WM III

Symptom You would like to compare the sales orders with the expected results.

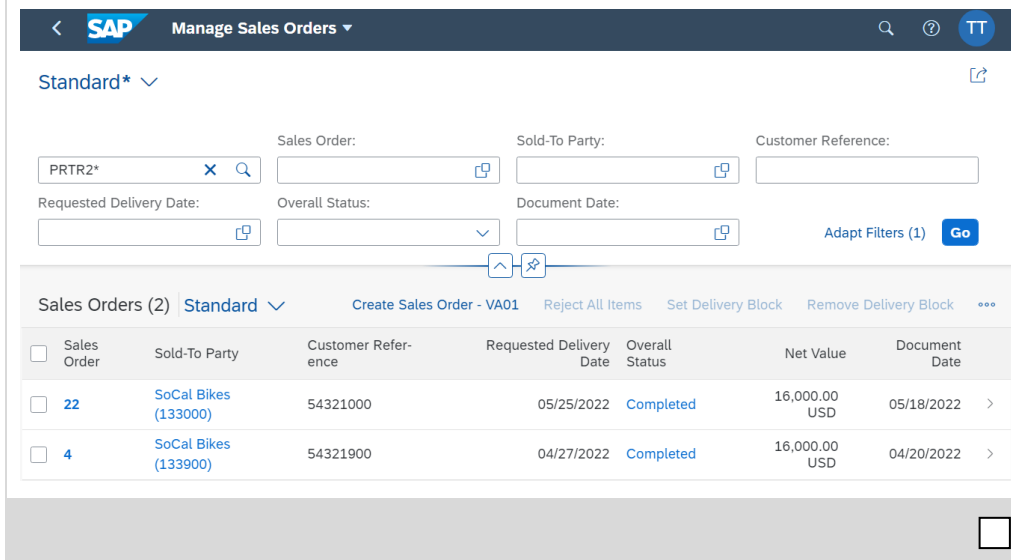
Reason Wrong inputs or typing errors are common mistakes of participants. They may lead to serious errors while processing later parts of a case study.

Solution Review the sales order documents of your participants to verify that all inputs are correct.

View sales orders

Open the *Manage Sales Orders* app by using the search  to display your students' orders. You can use your Material (PRTR2*) as a search criterion.

PRTR2*



The screenshot shows the SAP 'Manage Sales Orders' app interface. At the top, there's a header bar with the SAP logo and the title 'Manage Sales Orders'. Below the header, there's a search bar with 'Standard*' selected. The main area contains several filter fields: 'Sales Order:' with a search icon, 'Sold-To Party:', 'Customer Reference:', 'Requested Delivery Date:', 'Overall Status:', and 'Document Date:'. A 'Go' button is visible. Below the filters, there's a table of sales orders. The table has columns for 'Sales Order', 'Sold-To Party', 'Customer Reference', 'Requested Delivery Date', 'Overall Status', 'Net Value', and 'Document Date'. Two orders are listed: one with ID 22 and another with ID 4, both for 'SoCal Bikes' and with a status of 'Completed'.

Sales Order	Sold-To Party	Customer Reference	Requested Delivery Date	Overall Status	Net Value	Document Date
22	SoCal Bikes (133000)	54321000	05/25/2022	Completed	16,000.00 USD	05/18/2022
4	SoCal Bikes (133900)	54321900	04/27/2022	Completed	16,000.00 USD	04/20/2022