TSCM52

Procurement II - Part 2

INSTRUCTOR HANDBOOK
INSTRUCTOR-LED TRAINING

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About This Handbook

This handbook is intended to complement the instructor-led presentation of this course, and serve as a source of reference. It is not suitable for self-study.

Typographic Conventions

American English is the standard used in this handbook.

The following typographic conventions are also used.

This information is displayed in the instructor's presentation	
Demonstration	
Procedure	
Warning or Caution	
Hint	
Related or Additional Information	
Facilitated Discussion	
User interface control	*Example text*
Window title	*Example text*

Contents

Course Overview

TARGET AUDIENCE

This course is intended for the following audiences:

- Application Consultant

UNIT 1 | Organizational Units

Lesson 1

Lesson 2

UNIT OBJECTIVES

- Define organizational units in accounting and purchasing
- Define and assign plants

Defining Organizational Units in Accounting and Purchasing

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LESSON OVERVIEW

This lesson covers the definition of the various organizational levels in materials management and provides an overview of the relationships between them.

The lesson also explains the possible relationships of the purchasing organization with a client.

> Demonstrate the reference relationships among purchasing organizations using an example.

Business Example

You need to represent a new production location as a separate plant. At the moment, the new plant does not have its own purchasing department. Therefore, the purchasing organization of your existing plant must also create purchase orders for the new plant.

In addition, the existing contracts and conditions negotiated by the central purchasing organization also apply to the new plant. For this reason, you require the following knowledge:

- An understanding of the relationships between the organizational levels of materials management and their environment

- An understanding of the significance of the purchasing organization and the reference purchasing organization

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define organizational units in accounting and purchasing

Organizational Units in Accounting

Figure 1: Company Code
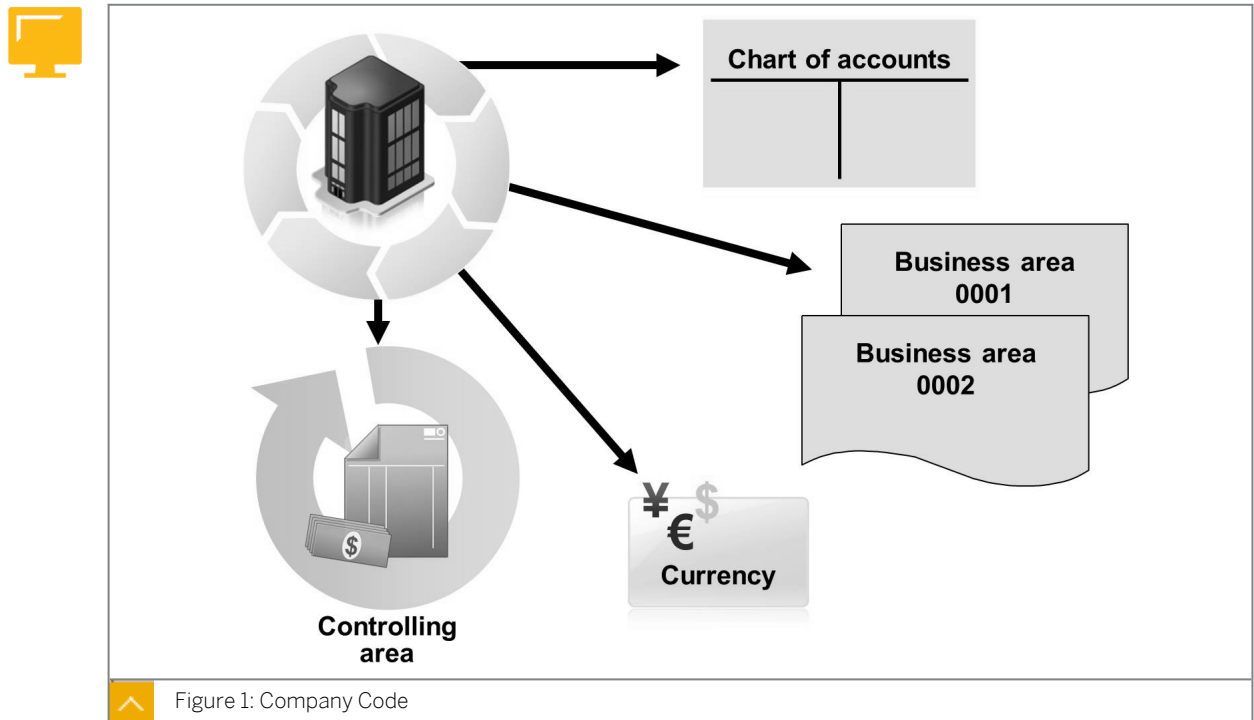
In the SAP system, you must set up the organizational levels for accounting even if your company uses a different system for this accounting function. You need a controlling area and have to set up a company code in the SAP system for each independent company. You can also define business areas for internal financial statements.

The company code is the smallest organizational unit in external accounting for which you can replicate a complete, self-contained bookkeeping system. This system includes the recording of all accounting-relevant events and the production of all legally required final statements of accounts, such as balance sheets and profit and loss (P&L) statements.

Among other things, the following options are specified for each company code:

- The company address

- The chart of accounts (list of general ledger accounts)

- The local currency (the currency used in a company code in which the local books are kept, usually the national currency)

- The fiscal year variant (specification of the periods and special periods of a fiscal year)

- The controlling area

- The determination whether balance sheets are also to be produced at the business area level

You define the company code in Customizing for *Enterprise Structure* under *Definition → Financial Accounting*. You also specify the company address, country, language, and currency of the company code.

You can assign the chart of accounts in Customizing for *Financial Accounting* under *Financial Accounting Global Settings → Company Code → Enter Global Parameters*.

You can set up business areas within your company to differentiate between various fields of activity or areas of responsibility. You define the business areas in Customizing for *Enterprise Structure under Definition → Financial Accounting → Define Business Area*.

The controlling area is an organizational unit within a company for which you can carry out complete, self-contained cost accounting. A controlling area can cover one or more company codes. The associated company codes must all use the same operative chart of accounts.

You assign a company code to a controlling area in Customizing for *Enterprise Structure* under *Assignment → Controlling*.

Purchasing Organization
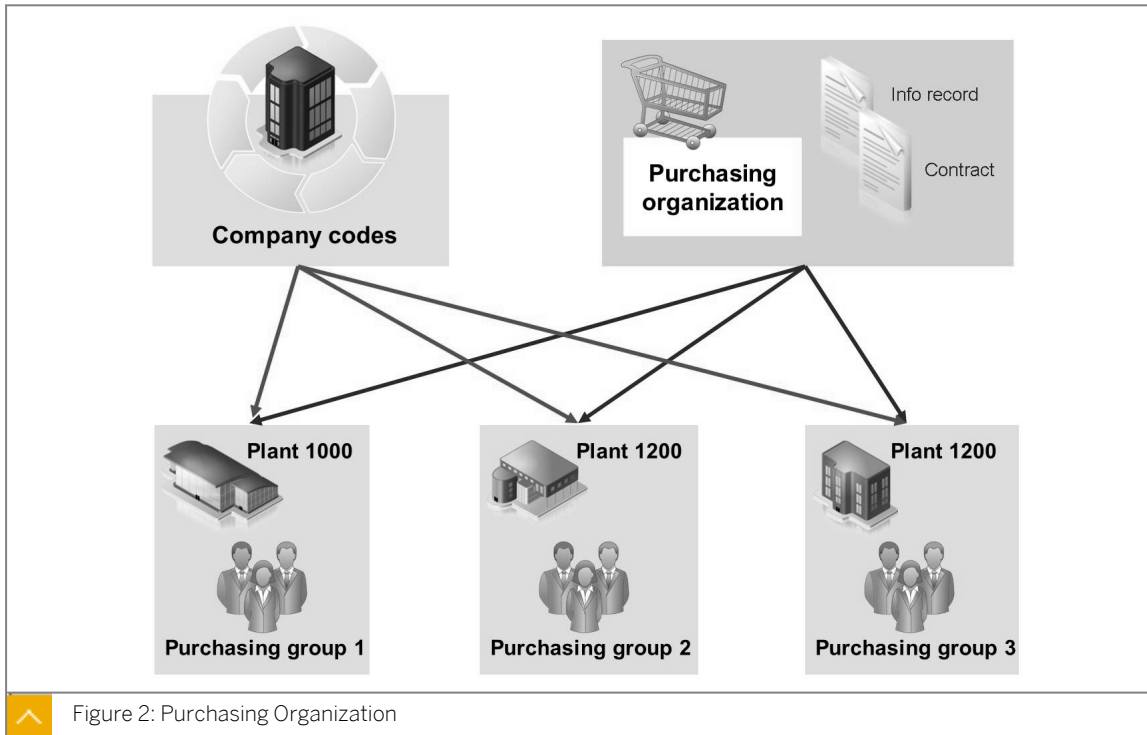
Figure 2: Purchasing Organization

A purchasing organization is an organizational unit within logistics that subdivides a company according to the purchasing requirements.

A purchasing organization performs the following tasks:

* Procures materials or services

* Negotiates purchase conditions with vendors

You specify the procurement form by assigning purchasing organizations to company codes (optional) and plants (mandatory).

The following table describes the forms of procurement:

Forms of Procurement	Description
Across a corporate group	A purchasing organization procures for more than one client company code
Company-specific	A purchasing organization procures for just one company code

Forms of Procurement	Description
Plant-specific	A purchasing organization procures for one plant

There can also be mixed forms of procurement.

When organizing your purchasing functions, take the following responsibilities and necessary data maintenance into account:

- Each purchasing organization has (in the standard SAP system) its own info records and conditions for price determination.

- Each purchasing organization has its own vendor master data (only purchasing data and partner roles).

- Each purchasing organization evaluates its vendors separately with *MM Vendor Evaluation*.

- The SAP authorization management system grants purchasing-relevant processes to each purchasing organization.

- All the items of a purchasing document, such as a request for quotation (RFQ), a purchase order (PO), a contract, and a scheduling agreement, are assigned to the same purchasing organization.

- The purchasing organization is the highest summation level for purchasing statistics after the organizational level *Client*.

- The purchasing organization is a selection criterion for lists of all purchasing documents.

Purchasing Organization and Purchasing Group

A purchasing organization is functionally responsible for purchase transactions and the negotiation of purchase conditions.

Assigning a purchasing organization to a company code allows you to process Accounting functions, for example, the creation of a vendor. It does not allow you to process purchasing-relevant processes, for example, the creation of a purchase order. In order to use the purchasing organization in purchasing-relevant processes, the purchasing organization must be assigned to all plants assigned to the company code.

Once you have assigned a purchasing organization to a company code, you can assign it to the plants of the same company code. Therefore, as a rule, the central purchasing department (as the purchasing organization) of a corporate group is not assigned to a company code.

You need not assign a purchasing organization to a plant if the plant creates only outline agreements.

In the standard system, all the conditions that exist in the system are entered with reference to a purchasing organization (for example, info records).

The purchasers perform the activities of their purchasing organizations. A *Purchasing Group* key is assigned to every purchaser or every group of purchasers. A purchasing group is internally responsible for the procurement of a material or a class of materials, and externally, a purchasing group usually supplies the contact person for vendors.

Define Organizational Units in Purchasing

A purchasing group is not assigned to a purchasing organization or plant. The purchasing group is assigned to a material at plant level. A purchasing group can be active for all purchasing organizations and plants if authorization management does not impose restrictions.

Define Organizational Units in Purchasing

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Business Example

Your tasks in the implementation team include mapping the organizational structures of your company for the Logistics applications in the SAP system.

> If you hold this lesson as part of course TSCM52, please note that no calendars are created.

Define the organizational structures relevant to MM. Explain the reference purchasing organization and how it is used to support purchasing.

Task 1

General relationships

Check the following statement based on the replication of organizational structures and give reasons for your answers:

1. A purchasing organization must always be assigned to a company code.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

Task 2

Organizational units in materials management: Considerations

You support the configuration of the organizational units based on the current organizational structure of your company.

Provide suitable answers to the following questions:

1. What are the central criteria for the definition of a new company code?

2. What are the central criteria for the definition of a new purchasing organization?

3. What are the central criteria for the definition of a new purchasing group?

📖 Define Organizational Units in Purchasing
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Business Example

Your tasks in the implementation team include mapping the organizational structures of your company for the Logistics applications in the SAP system.

> ℹ️ If you hold this lesson as part of course TSCM52, please note that no calendars are created.

Define the organizational structures relevant to MM. Explain the reference purchasing organization and how it is used to support purchasing.

Task 1

General relationships

Check the following statement based on the replication of organizational structures and give reasons for your answers:

1. A purchasing organization must always be assigned to a company code.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   A purchasing organization does not have to be assigned to any company code if the organization in question acts as a central purchasing organization. If a purchasing organization is not assigned to a company code, plants from different company codes can be assigned to this purchasing organization.

Task 2

Organizational units in materials management: Considerations

You support the configuration of the organizational units based on the current organizational structure of your company.

Provide suitable answers to the following questions:

1. What are the central criteria for the definition of a new company code?

   a) The company code represents an independent organizational unit of accounting.

   You create a new company code if you want to define a new company in the SAP system.

2. What are the central criteria for the definition of a new purchasing organization?

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a) The purchasing organization is an organizational unit within Logistics that facilitates the subdivision of a company according to purchasing requirements.

You create a new purchasing organization if you want to set up a central purchasing department or to create separate, outlined purchase agreements and conditions for a certain area.

3. What are the central criteria for the definition of a new purchasing group?

a) A purchasing group represents an individual or group of individuals responsible for certain purchasing activities.

You create a new purchasing group if a new employee assumes responsibility for purchasing activities.

LESSON SUMMARY
You should now be able to:

- Define organizational units in accounting and purchasing

Defining and Assigning Plants

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LESSON OVERVIEW

This lesson covers the various options available to create a new plant.

> When you demonstrate Customizing for the plant, follow the procedure laid out in the exercise. Create general data and assignments for the new plant manually and copy all other table entries from an existing plant.

Business Example

You need to represent a new production location as a separate plant.

Initially, the new plant did not have its own purchasing department. Therefore, the purchasing organization of your existing plant also created purchase orders for the new plant.

Now, you need to apply the existing contracts and conditions negotiated by your central purchasing organization to the new plant. For this reason, you require the following knowledge:

- An understanding of how to create plant and storage locations with several addresses

- An understanding of how to use the plant copy and check function

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define and assign plants

Valuation Area and Plant
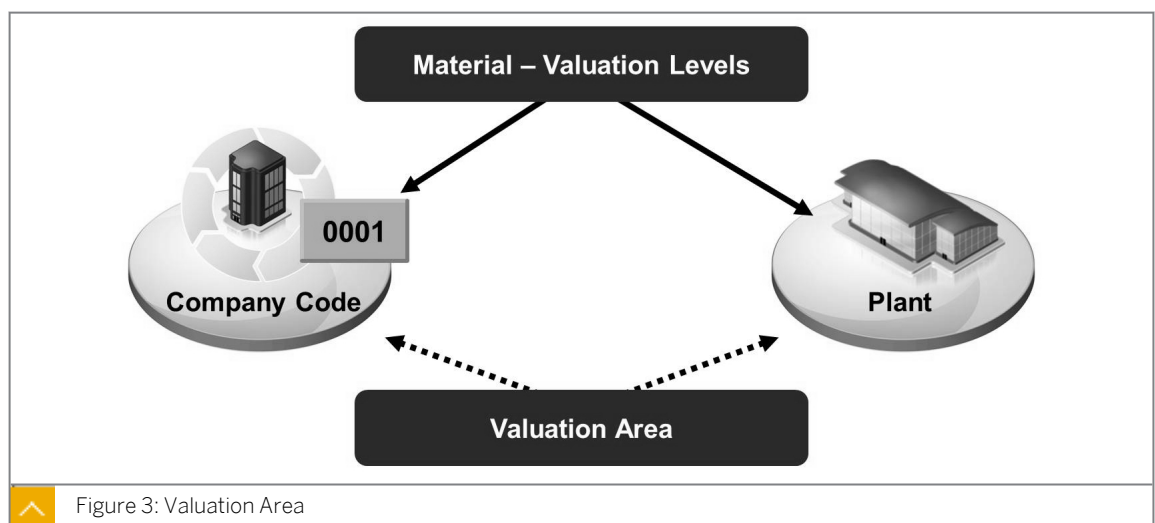
Figure 3: Valuation Area

A valuation area is an organizational unit within Logistics that subdivides a company for the purpose of uniform and complete valuation of material stocks.

You define the valuation area by specifying the level at which the system valuates the stocks of materials. This specification applies to the entire client.

The valuation area can be defined in the following ways:

- Option 1: Valuation area = company code

  The valuation data of a material is created for each company code. Price control and the price of a material apply per company code. You can, therefore, valuate the same material consistently in all plants of a company code.

- Option 2: Valuation area = plant

  The valuation data of a material is created for each plant. Price control and the price of a material apply per plant. You can, therefore, valuate the same material differently in different plants.

In a production system, you cannot switch the valuation area from plant to company code or vice versa. In such a case, you need to convert existing data. A plant valuation level is mandatory for production planning and product costing.

Plant
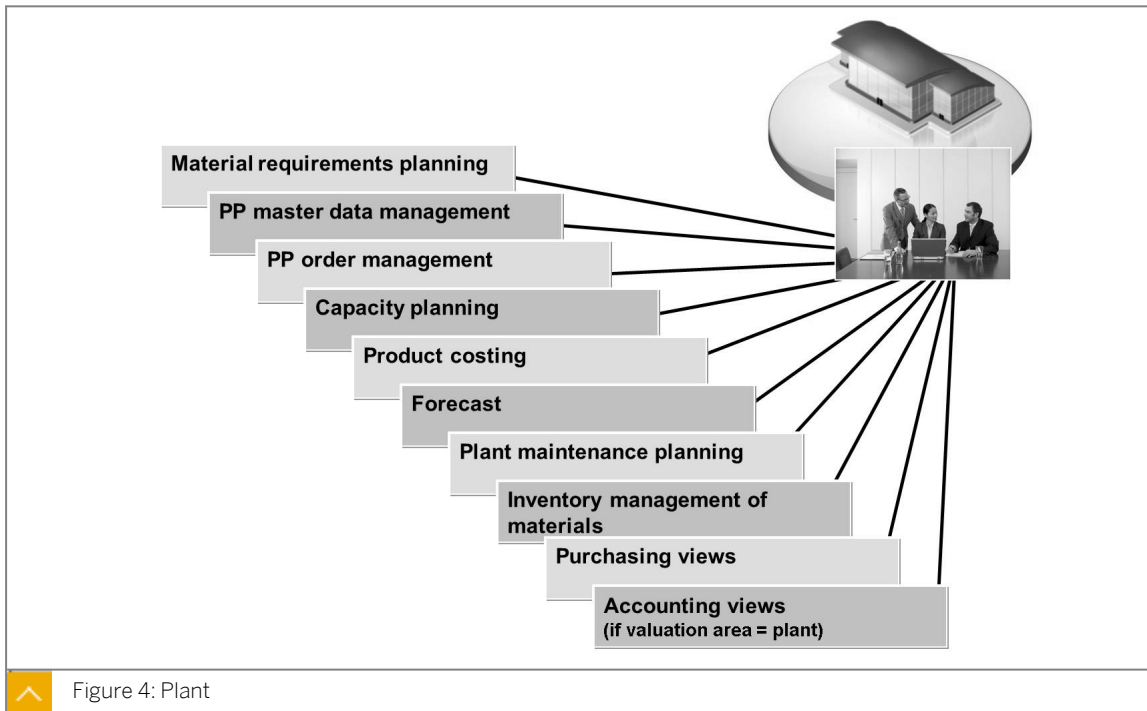
Figure 4: Plant

A plant is an organizational unit within Logistics that subdivides the enterprise for production, procurement, maintenance, and materials planning. A plant produces materials or makes goods or services available.

A plant is an operational unit or branch in a company with the following characteristics:

- A plant and a division belong to just one business area.

- A plant can belong to several combinations of sales organizations and distribution channels.

- A plant has an address and a language and belongs to a country.

- A plant has its own material master data. Data can be maintained at plant level for various views of the material master record, such as Materials Requirements Planning (MRP), Purchasing, Storage, Work Scheduling, Production Resources or Tools, Forecast, Quality Management, Sales and Distribution, and Costing.

- A plant can have several purchasing organizations.

- Production planning and production are carried out on a plant-specific basis. However, certain applications can work on a cross-plant basis.

- Requirements planning and forecasting activities are carried out for MRP areas. For capacity planning purposes, pooled capacities can be defined.

- Product costing can be carried out on a cross-plant basis.

- A plant can be defined as a maintenance planning plant. To define the plant, in Customizing, go to *Enterprise Structure → Definition → Plant Maintenance → Maintain Maintenance Planning Plant*.

A plant can simultaneously be a production plant and a maintenance planning plant.

Storage Location
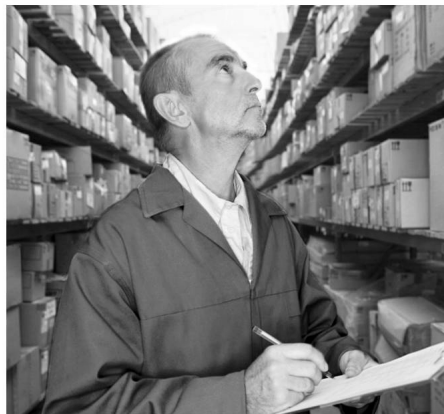
Figure 5: Storage Location

The characteristics of a storage location are as follows:

- A storage location is the level at which you physically manage the stocks of a material.

- A storage location is the level at which the physical inventory process takes place (except when the Warehouse Management system is activated).

- The system manages the stocks at storage location level on a quantity basis only, not on a value basis.

- A storage location always belongs to a certain plant.

- A storage location can have different addresses (for example, one for the delivery of general cargo and another for bulk material).

The storage location key must be unique within a plant. You can use the same storage location keys in each plant. You can define the storage location key according to the function of the storage location and set up a uniform storage location structure for all plants.

You can maintain one or more addresses for each storage location. These addresses can differ from the plant address. If you maintain a storage location address and specify it in a purchase order, the system will output the associated address as the delivery address.

If you store several addresses for a storage location, the system always suggests the first address. You can change the address by selecting a different address number on the *Delivery Address* tab page (the system generates one address number per address).

> Hint:
> You can link a warehouse number to a storage location. You can define the warehouse structure in Logistics Execution.

Relationships Between Organizational Levels
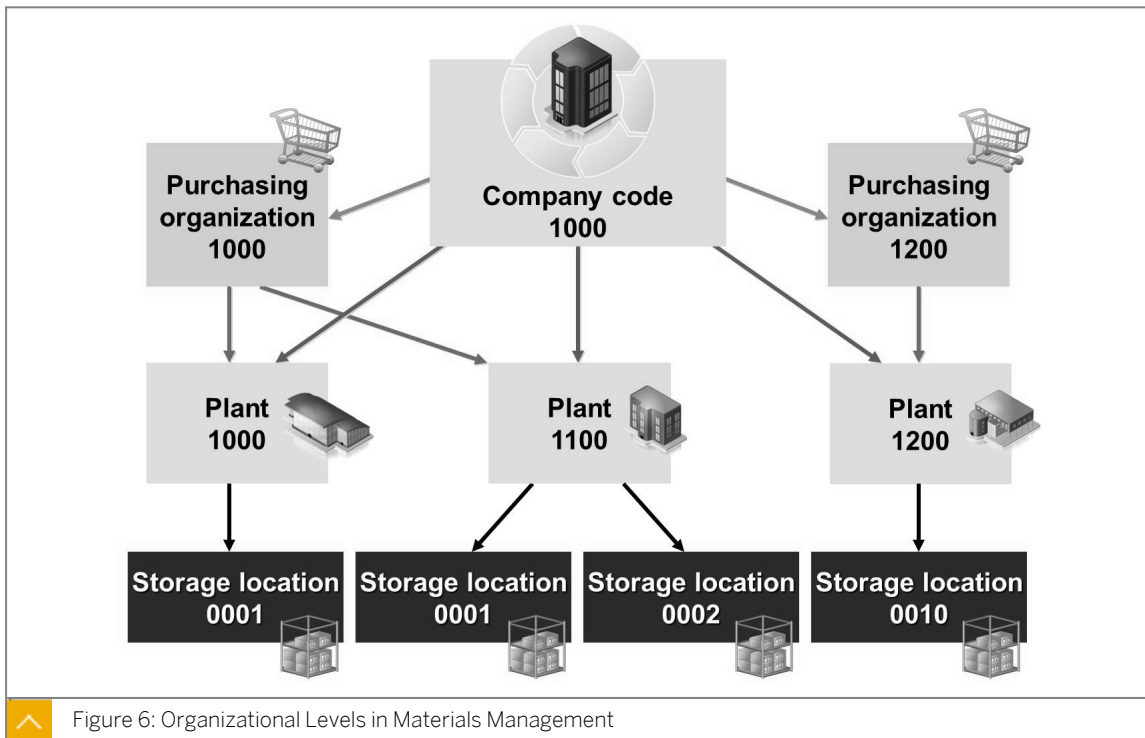
Figure 6: Organizational Levels in Materials Management

The possible relationships between company codes, purchasing organizations, and plants are as follows:

- A plant has only one company code. However, a company code can refer to several plants.

- Several storage locations that manage stocks of materials can belong to a plant. Always assign a storage location to just one plant.

- Purchasing organizations can be responsible for one or more plants. However, a plant can also have a number of purchasing organizations.

Examples of purchasing organizations that can be assigned to a plant are as follows:

- A local purchasing organization

- A cross-plant purchasing organization

- A cross-company-code purchasing organization

- Two purchasing organizations with different work center operation sets, such as *Procuring Materials* and *Procuring Services*

Organizational Levels in Logistics
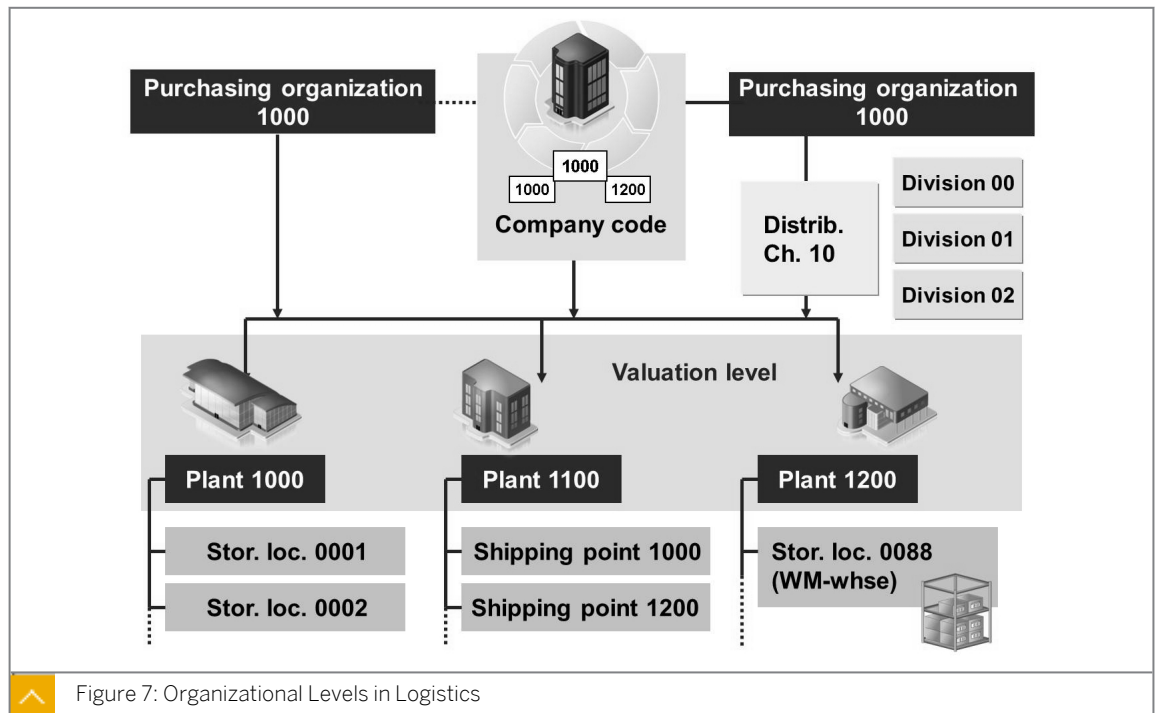
Figure 7: Organizational Levels in Logistics

The figure displays the interrelationships between the organizational levels of materials management and sales and distribution.

You can assign purchasing organizations to a company code. However, you can also work with purchasing organizations for which you have not assigned any company code (for example, centralized purchasing).

Purchasing organizations can be responsible for one or more plants.

In contrast, always assign sales organizations to one company code.

Sales organizations can be responsible for one or more plants. A sales organization, a distribution channel, and a product division constitute a sales area.

The valuation level can be a single plant, or the valuation level can encompass all the plants of a company code.

Organizational Levels for Materials Management and Accounting
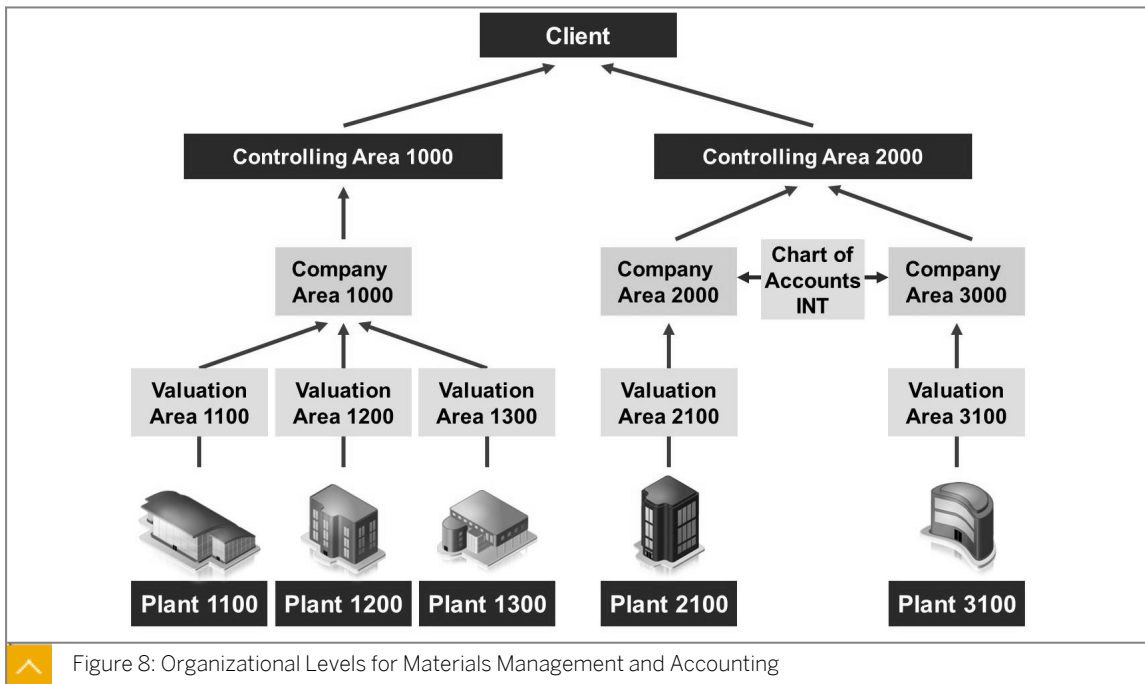
Figure 8: Organizational Levels for Materials Management and Accounting

The SAP system differentiates between various organizational units that have special significance within the relevant application.

Define the controlling areas in Controlling. Assign several company codes that use the same chart of accounts to a controlling area. To do this, in Customizing, go to *Enterprise Structure → Assignment → Controlling → Assign company code to controlling area*).

The system valuates materials at plant level or company code level. The figure shows valuation at plant level as recommended by SAP. The valuation area key thus corresponds to the plant key.

For product costing and production planning, the existence of a separate valuation area for each plant is mandatory.

The value-based inventory management of materials always takes place at the level of the valuation area.

> Hint:
> In addition, substocks of a material may be subject to split valuation (for example, the system may valuate stocks of a material produced in-house at a different price as compared to stocks procured externally). The system controls the valuation category and the valuation type.

Setting up a New Plant

Creating "single"	Copying "complex"

Plant 1000 → **Plant 1200**

Maintaining the general plant data
➔ City and street
Country and zip code
Address

Copying the general plant data
➔ City and street
Country and zip code
Check address

Perform assignments
such as: plant ➔ purchasing organization
plant ➔ company code
➔ **Check assignments**

Copy all assignments
such as: plant ➔ purchasing organization
plant ➔ company code
➔ **Check assignments**

Check the functional parameters for the plant
➔ Check and maintain all the plant-
dependent tables in the application areas

Copy the functional parameters
➔ All the plant-dependent tables
in the application areas are copied
➔ Check may be necessary

Figure 9: Creating a New Plant

The system has extended functions for setting up a (new) plant in Customizing under *Enterprise Structure → Definition → Logistics - General → Define, copy, delete, check plant* (`EC02`). The system uses these functions to process the entry in the plant table and all dependent Customizing tables and system tables in which the plant appears as a key.

The option of copying organizational objects to create complex organizational units, such as *Company Code*, *Sales Organization*, and *Plant*, reduces the work involved in maintaining new objects in Customizing.

Definition of a Plant

Change View "Plants": Details

New Entries

Plant	3000
Name 1	New York
Name 2	New York

Detailed information

Language Key	EN	English
House number/street	691 Broadway	
PO Box	5454545	
Postal Code	10001	
City	NEW YORK	
Country Key	US	United States
Region	NY	New York
County code	001	County in NY
City code	0001	City code in NY
Tax Jurisdiction	3306120101	
Factory calendar	US	Factory calendar US standard

Note: The address fields Name1 and Name2 are not copied from the address
screen and you must maintain them separately.
All other addr. data can only be maintained in addr. screen.
The changes can only be seen in the overview and detail view
after they have been saved.

Figure 10: Definition of a Plant

The figure from the Implementation Guide, displays the details of the definition of a plant. You can enter or change the data in the middle block only through maintenance of the plant address.

The Plant Address Data

Figure 11: The Plant Address Data

The data that you can maintain with the address tool is shown in the figure from the Implementation Guide. The two fields *Search term 1/2* enable you to store suitable information for quickly accessing (any) addresses for different applications.

Definition of Storage Locations for a Plant

Figure 12: Definition of Storage Locations for a Plant

The figure, from the Implementation Guide, displays the definition of storage locations with the option of maintaining your own storage location addresses.

Use the following extended functions to process organizational units:

- Copy

- Delete

- Check

- Generate and process project in Customizing view

These functions enable you to maintain plant-dependent table entries in addition to the general plant data, which includes the plant key, description, address, country, language, and factory calendar.

> Hint:
> If you want to see the plant-dependent tables, execute transaction `EC02`. Choose *Extras → Associated Tables*.

Project Customizing

When you first call the Customizing Activities function within the activity *Define, copy, delete, check plant*, you generate a new project view for an existing Customizing project.

This view contains all the steps necessary for processing the plant organizational unit within the framework of the Customizing project.

The steps to carry out the Check Plant function are as follows:

1. The system checks whether the entry exists in all the tables in which the table key contains the specified organizational unit.

2. The system checks whether the specified entry also exists in the dependent tables for which validation is carried out against the table key.

The system uses the plant organizational unit as a key in the table containing the plant parameters for inventory management. The system checks this table to determine whether an entry exists for the plant being checked.

For each material type, you can specify per valuation area whether the material master records of this material type are updated on a quantity basis (stock materials) or on a value basis (valuated materials). These details are found in a table with the plant organizational unit as the table key.

This table also contains the table key material type. The program not only checks whether this table contains entries for the plant being checked but also whether all material types used (still) exist.

Set up a New Plant

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Business Example

Your tasks in the implementation team include mapping the organizational structures of your company for the Logistics applications in the SAP system.

You must create new plants for the organization. There are several advantages if the new plants can use existing purchase agreements and price conditions negotiated by the central purchasing organization.

To achieve this goal, the necessary organizational assignments must be made for the new plants.

Configure a new plant with storage locations and maintain the assignment to the company code and purchasing organizations. Use the plant copy functions. Explain the organizational units of Financial Accounting, company code, and controlling area and how they relate to the plant.

Task 1

General relationships

During the discussion of the replication of organizational structures, the following statements were made. Check these statements and give reasons for your answers:

1. A plant can be assigned to several company codes.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

2. The storage location key 0001 may be used multiple times.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

Task 2

Organizational units in materials management: Considerations

You define the configuration of the new organizational units based on the current organizational structure of your company.

1. What are the central criteria for the definition of a new plant?

---

2. What are the central criteria for the definition of a new storage location?

Task 3

Definition of organizational units

You need to set up a new plant with key **TR##** after the organizational structures are approved by the project steering committee.

In the exercise, initially work without the copy function even though it is recommended to use it in practice.

1. Define a new plant **TR##**. Specify DE as the country for this plant and assign the factory calendar 01 (Germany, standard) or your new factory calendar from the *Calendar* lesson to the plant.

2. Create the storage locations 0001, 0002, and 0003 for this plant.
   Optional:
   Maintain two different addresses for storage location 0001.

3. Assign plant **TR##** to company code 1000.

4. Purchasing organization 1000 is responsible for plant **TR##**. Execute an assignment.

5. Check the significance of the standard purchasing organization by referring to the Implementation Guide. Which transactions use the standard purchasing organization?
   Assign purchasing organization 1000 to plant **TR##** as the standard purchasing organization.

6. Check the significance of the reference purchasing organization by referring to the Implementation Guide. Is a reference purchasing organization defined for purchasing organization 1000?

7. What is the relationship between purchasing groups and purchasing organizations in Customizing? Interpret the result.

8. Optional:
   Define a new local purchasing organization **EK##**. This local purchasing organization only acts for the new plant **TR##**. This local purchasing organization is also able to access the contracts of the central purchasing organization **C100**. Make all necessary assignments for new purchasing organization **EK##**.

9. Check whether plant **TR##** is assigned to controlling area 1000. Is there a direct assignment or relationship defined between the plant and the controlling area?

Task 4

Creation of organizational units using the *Plant Copy* function

1. Complete plant **TR##** by adding further settings using the copy function. Use the completely set up plant 1200 as a template for copying purposes.

> Hint:
> If you choose *Extras → Associated Tables* from the menu bar, a list of all plant-dependent tables is displayed. The system has more than 300 plant-dependent tables. If you do not use the copy plant function, you must maintain all these tables manually.

Task 5

Transactions using the new organizational unit

1. Create the first material master record for your new plant **TR##** and storage location **0001**. Extend raw material **R-T1##**. In addition, use this material, which was created for plant **1000**, as a reference material.

   Create the views *Purchasing, Gen. Plant Data/Storage 1,* and *Accounting 1*. The material is valuated in plant **TR##** with the standard price of EUR 10.00 per unit.

Set up a New Plant

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Business Example

Your tasks in the implementation team include mapping the organizational structures of your company for the Logistics applications in the SAP system.

You must create new plants for the organization. There are several advantages if the new plants can use existing purchase agreements and price conditions negotiated by the central purchasing organization.

To achieve this goal, the necessary organizational assignments must be made for the new plants.

Configure a new plant with storage locations and maintain the assignment to the company code and purchasing organizations. Use the plant copy functions. Explain the organizational units of Financial Accounting, company code, and controlling area and how they relate to the plant.

Task 1

General relationships

During the discussion of the replication of organizational structures, the following statements were made. Check these statements and give reasons for your answers:

1. A plant can be assigned to several company codes.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   Each plant can be assigned to only one company code.

2. The storage location key 0001 may be used multiple times.

   Determine whether this statement is true or false.

   ☒ True

   ☐ False

   You can use the storage location key 0001 multiple times because you define storage locations per plant, for example, you can assign the same key to the raw material stores in all plants.

Task 2

Organizational units in materials management: Considerations

You define the configuration of the new organizational units based on the current organizational structure of your company.

1. What are the central criteria for the definition of a new plant?
    a) A plant is an organizational unit within Logistics that subdivides the company for production, procurement, maintenance, and materials planning.

    You create a new plant to carry out logistical business processes, such as materials planning or production control, at a new site independent of other sites.

2. What are the central criteria for the definition of a new storage location?
    a) A storage location is an organizational unit that facilitates differentiation between stocks of materials within a plant.

    You create a new storage location to define a new area with separate, quantity-based inventory management.

Task 3

Definition of organizational units

You need to set up a new plant with key **TR##** after the organizational structures are approved by the project steering committee.

In the exercise, initially work without the copy function even though it is recommended to use it in practice.

1. Define a new plant **TR##**. Specify DE as the country for this plant and assign the factory calendar 01 (Germany, standard) or your new factory calendar from the *Calendar* lesson to the plant.
    a) In Customizing, go to *Enterprise Structure → Definition → Logistics - General → Define, copy, delete, check Plant*.

    b) Choose *Define Plant*.

    c) Choose *New Entries*.

    d) Enter *Plant* **TR##** and *Factory Calendar* **01**.

    e) Choose *Address*.

    f) Enter a name for your plant, the country key DE, and further address data.

    g) Save your entries.

2. Create the storage locations 0001, 0002, and 0003 for this plant.
    Optional:

    Maintain two different addresses for storage location 0001.
    a) In Customizing, go to *Enterprise Structure → Definition → Materials Management → Maintain storage location*.

    b) Enter *Plant* **TR##** and choose *Continue*.

    c) Choose *New Entries*.

d) Enter new storage locations **0001**, **0002**, and **0003**. Enter a name for each storage location.

e) Save your entries.

f) Go to the overview of the new storage locations, select storage location **0001**, and choose *Addresses of Storage Locations* in the dialog structure.

> **Hint:**
> In the SAP system, you can use several addresses for a storage location. You do not maintain these addresses directly but through a *sequential number*.

g) Choose *New Entries*.

h) Enter any address numbers (such as **10** and **20**) and then choose *Address* in the toolbar. Enter any address data.

i) Save your entries.

3. Assign plant **TR##** to company code 1000.

a) In Customizing, go to *Enterprise Structure → Assignment → Logistics - General → Assign plant to company code*.

b) Choose *New Entries*.

c) Create a new entry with company code **1000** and plant **TR##**.

d) Save your entries.

4. Purchasing organization 1000 is responsible for plant **TR##**. Execute an assignment.

a) In Customizing, go to *Enterprise Structure → Assignment → Materials Management → Assign purchasing organization to plant*.

b) Choose *New Entries*.

c) Create a new entry with purchasing organization **1000** and plant **TR##**.

d) Save your entries.

5. Check the significance of the standard purchasing organization by referring to the Implementation Guide. Which transactions use the standard purchasing organization?

Assign purchasing organization 1000 to plant **TR##** as the standard purchasing organization.

a) In Customizing, go to *Enterprise Structure → Assignment → Materials Management → Assign standard purchasing organization to plant*.

b) Call the documentation for the Customizing activity.

c) Among other things, the standard purchasing organization must valuate consumption postings for consignment and pipeline materials. The standard purchasing organization also automatically generates purchase orders at the time of goods receipts because the system is only able to find unique conditions through the info record of the standard purchasing organization.

d) Call the activity. Enter purchasing organization **1000** for your plant **TR##**.

e) Save your entries.

6. Check the significance of the reference purchasing organization by referring to the Implementation Guide. Is a reference purchasing organization defined for purchasing organization 1000?

a) In Customizing, go to *Enterprise Structure → Assignment → Materials Management → Assign purch.organization to reference purch.organization*.

A reference relationship between purchasing organizations enables you to work with conditions and contract release orders on a cross-purchasing-organization basis.

The system has assigned purchasing organization **C100** as a reference purchasing organization for purchasing organization **1000**.

7. What is the relationship between purchasing groups and purchasing organizations in Customizing? Interpret the result.

a) There are no relationships in Customizing.

The system does not assign purchasing groups to purchasing organizations. The two objects are independent of each other. The system creates purchasing groups for individual employees to allow user-specific settings for activities (such as printing for purchase order printouts and telephone and fax numbers on purchasing documents). The system assigns purchasing groups to materials through the material master record. You can use a purchasing group in combination with any purchasing organization if you are authorized to do so.

The system sets up purchasing organizations as a level for the definition of conditions (price determination) and the conclusion of outline agreements.

8. Optional:

Define a new local purchasing organization **EK##**. This local purchasing organization only acts for the new plant **TR##**. This local purchasing organization is also able to access the contracts of the central purchasing organization **C100**. Make all necessary assignments for new purchasing organization **EK##**.

a) In Customizing, go to *Enterprise Structure → Definition → Materials Management → Maintain purchasing organization*.

b) Choose *New Entries*.

c) Enter **EK##** and a name for the purchasing organization.

d) Save your input.

e) In Customizing, go to *Enterprise Structure → Assignment → Materials Management → Assign purchasing organization to plant*.

f) Choose *New Entries*.

g) Create a new entry with purchasing organization **EK##** and plant **TR##**.

h) Save your entries.

i) In Customizing, go to *Enterprise Structure → Assignment → Materials Management → Assign purch.organization to reference purch.organization*.

j) Create a new entry with purchasing organization `EK##` and reference purchasing organization `C100`.

k) Select the *Release Order* checkbox for an allowed transaction and the *Conditions* checkbox for referenced data.

l) Save your entries.

9. Check whether plant `TR##` is assigned to controlling area 1000. Is there a direct assignment or relationship defined between the plant and the controlling area?

a) There is no direct assignment of plant to controlling area. You must, therefore, check the assignment in two steps through the company code. Go to Customizing for *Enterprise Structure* under *Assignment → Logistics - General → Assign plant to company code*.

b) Plant *TR##* is assigned to company code *1000*.

c) Choose *Enterprise Structure → Assignment → Controlling → Assign company code to controlling area*.

d) Select controlling area *1000* and choose *Assignment of Company code(s)* from the dialog structure.

e) Company code *1000* is assigned to controlling area *1000*. Therefore, plant *TR##* is assigned to controlling area *1000*.

Task 4

Creation of organizational units using the *Plant Copy* function

1. Complete plant `TR##` by adding further settings using the copy function. Use the completely set up plant 1200 as a template for copying purposes.

a) In Customizing, go to *Enterprise Structure → Definition → Logistics-General → Define, copy, delete, check plant*.

b) Choose *Copy, delete, check plant*.

c) Select *Organizational object → Copy org. object*.

d) Copy from plant *1200* to plant *TR##* and select *Continue*. Answer the subsequent question with *Yes* to complete the whole operation.

> **Hint:**
> If you choose *Extras → Associated Tables* from the menu bar, a list of all plant-dependent tables is displayed. The system has more than 300 plant-dependent tables. If you do not use the copy plant function, you must maintain all these tables manually.

Task 5

Transactions using the new organizational unit

1. Create the first material master record for your new plant **TR##** and storage location **0001**. Extend raw material **R-T1##**. In addition, use this material, which was created for plant **1000**, as a reference material.

   Create the views *Purchasing, Gen. Plant Data/Storage 1,* and *Accounting 1*. The material is valuated in plant **TR##** with the standard price of EUR 10.00 per unit.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately* (MM01).

   b) Enter material number **R-T1##** both for creating the new data and as a reference material.

   c) Select the views *Purchasing*, *General Plant Data/Storage 1*, and *Accounting 1* and select the *Create views selected* checkbox.

   d) Select *Org. Levels* and enter your new plant **TR##** and storage location **0001** as organizational levels. Enter plant **1000** and storage location **0001** for the template.

   e) Choose *Continue*.

   f) Save your entries.

LESSON SUMMARY
You should now be able to:

- Define and assign plants

Learning Assessment

1. Which of the following options can you specify per company code?

   Choose the correct answers.

   ☐ **A** Chart of accounts

   ☐ **B** Order currency

   ☐ **C** Local currency

   ☐ **D** Divisions

2. Which of the following assignments is mandatory for creating purchase orders?

   Choose the correct answer.

   ☐ **A** Company Code - Purchasing Organization

   ☐ **B** Reference Purchasing Organization - Purchasing Organization

   ☐ **C** Plant - Purchasing Organization

   ☐ **D** Standard Purchasing Organization - Plant

3. For which processes do you need a standard purchasing organization?

   Choose the correct answers.

   ☐ **A** Subcontracting

   ☐ **B** Consignment

   ☐ **C** Third Party

   ☐ **D** Pipeline

4. On which organizational level do you define purchasing groups?

   Choose the correct answer.

   ☐ **A** Company code

   ☐ **B** Plant

   ☐ **C** Client

   ☐ **D** Purchasing organization

5. Which of the following can you define as valuation levels?

   Choose the correct answers.

   ☐ **A** Client

   ☐ **B** Plant

   ☐ **C** Company code

   ☐ **D** Storage location

6. Which of the following functions are executed at the plant level?

   Choose the correct answers.

   ☐ **A** Quantity-based inventory management

   ☐ **B** Value-based inventory management

   ☐ **C** Materials requirement planning

   ☐ **D** Invoice verification

7. Which of the following functions are executed at the storage location level?

   Choose the correct answer.

   ☐ **A** Forecasting

   ☐ **B** Physical inventory

   ☐ **C** Capacity planning

   ☐ **D** Maintenance planning

8. For Logistics Execution, to which of the following can you link a storage location?

   Choose the correct answer.

   ☐ **A** Shipping point

   ☐ **B** Warehouse number

   ☐ **C** Production supply area

   ☐ **D** Storage bin

Learning Assessment - Answers

1. Which of the following options can you specify per company code?

   Choose the correct answers.

   [X] **A** Chart of accounts

   [ ] **B** Order currency

   [X] **C** Local currency

   [ ] **D** Divisions

2. Which of the following assignments is mandatory for creating purchase orders?

   Choose the correct answer.

   [ ] **A** Company Code - Purchasing Organization

   [ ] **B** Reference Purchasing Organization - Purchasing Organization

   [X] **C** Plant - Purchasing Organization

   [ ] **D** Standard Purchasing Organization - Plant

3. For which processes do you need a standard purchasing organization?

   Choose the correct answers.

   [ ] **A** Subcontracting

   [X] **B** Consignment

   [ ] **C** Third Party

   [X] **D** Pipeline

4. On which organizational level do you define purchasing groups?

   Choose the correct answer.

   ☐ **A** Company code

   ☐ **B** Plant

   ☒ **C** Client

   ☐ **D** Purchasing organization

5. Which of the following can you define as valuation levels?

   Choose the correct answers.

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   ☒ **B** Plant

   ☒ **C** Company code

   ☐ **D** Storage location

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   ☐ **A** Shipping point

   ☒ **B** Warehouse number

   ☐ **C** Production supply area

   ☐ **D** Storage bin

UNIT 2 Master Data

UNIT OBJECTIVES

- Define basic settings for material master records

- Create material types

- Configure field selection for material master records

- Define field references for material master records

📖 Setting Up Material Master Records

38

LESSON OVERVIEW

This lesson discusses the options for defining a material type for material master records as per requirements. You can use the material types to define important control parameters for material master records.

> ℹ️ Not every user wishes to use the material types supplied in the way they have been set up in the SAP system. However, it is better not to change the SAP material types. Instead, the participant should create new ones and change them according to his or her requirements.

Business Example

One of the plants of your company produces materials that are transported to other plants for the manufacturing of new products. You are responsible to manage the records for the materials of your production plant.

For this reason, you require the following knowledge:

- An understanding of settings of material master records

- An understanding of how to maintain company codes for materials

🖥️ LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define basic settings for material master records

Overview of Settings for Material Master Records

▶	**Configuring the material master**
▶	**Field selection**
▶	**Basic settings**
▶	**Settings for key fields**
▶	**Tools and enhancements**
▶	**Retail-specific settings**

Figure 13: Settings for Material Master Records
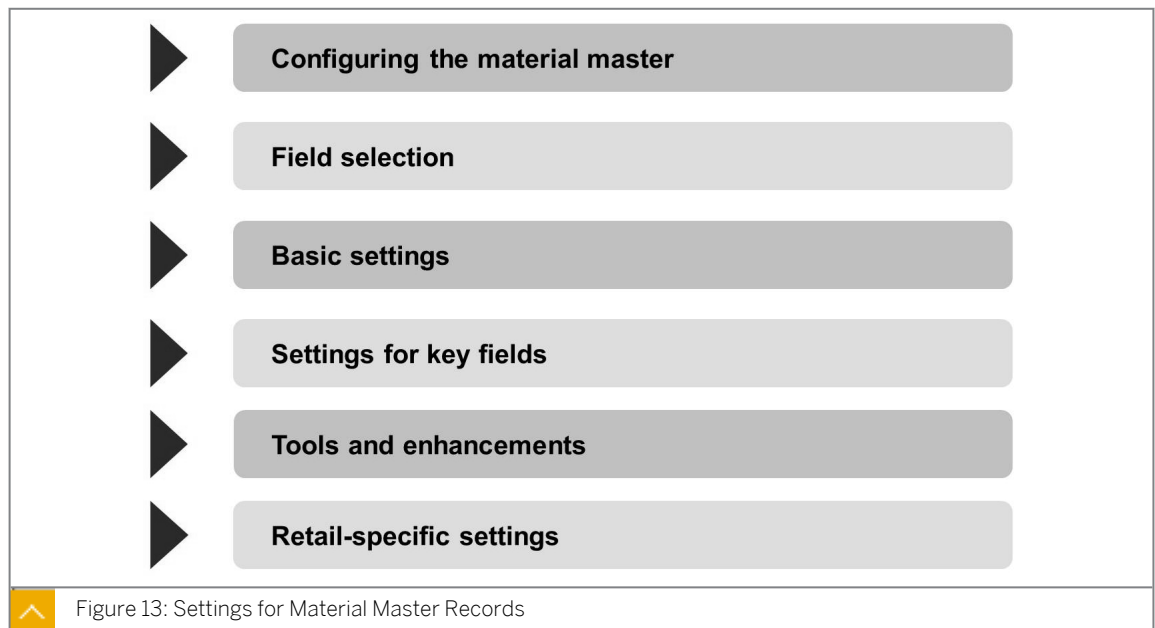
The following activities are subdivided in Customizing:

- Adjust the material master dialog (such as screen layout, order of screens, and so on) in accordance with the specific requirements of your enterprise under *Configuring the Material Master*.

- Specify the material master fields that are to be made ready for input (mandatory or optional entry), display only, or suppressed in Customizing under *Field Selection* menu.

- Make all settings for the material types and number assignment for material master records in Customizing under *Basic Settings* menu.

Customizing Settings

In Customizing, under the *Settings for Key Fields* node, you specify which material groups and divisions you use in your company and which types of material statuses you wish to use.

Perform the following functions in Customizing, under the Tools node:

- Define authorizations and authorization profiles for the maintenance of material master records

- Organize the transfer of data for material master records

- Specify the start times of background jobs

- Maintain search help

- Reset test data

- Initialize the periods for the individual company codes

In Customizing, under the *Enhancements* menu, the documentation and options for using *Enhancements* and *Business Add-Ins* exist. For example, here you can find the number assignment and default values for material master maintenance for your company.

Basic Settings

Figure 14: Basic Settings
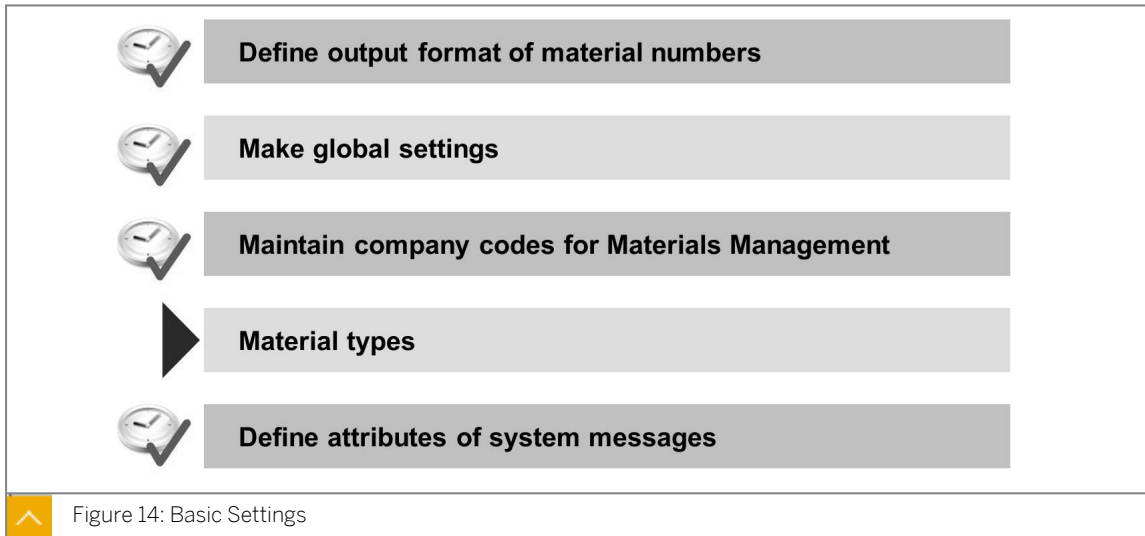
The basic settings for the material type are as follows:

- The output format of material numbers

- The global settings

- The maintenance of company codes for materials management

- The material types and number ranges

- The properties of system messages during material master maintenance

Specify the following data in Customizing, under the Global Settings node:

- The type of administrative data update for the technical data (table MSTA) during the processing of material master records

  The system updates the material administration data whenever you create or change

  material master records. You can use the ![info icon] (*Quick Info*) option in a material master record to see relevant information.

  You can choose one of the following settings:

  - The update is to take place only at the table level (such as at client level, plant level, and so on).

  - The update has to depend on each maintenance status (such as *Materials Planning*, *Purchasing*, and so on) and data-retention level (such as client, plant, and so on).

  - Data must not be updated.

- Document type

  The standard document type for engineering or design drawings, if your company uses the document management system

Activate certain special applications of reference materials, such as, using follow-up materials or manufacturer part numbers, by using a checkbox.

Maintenance of Company Codes for Materials

	CoCd	Company name	Year	Pe	FYr	MP	FYr	LM	ABp	DBp
	2300	IDES España	2005	6	2005	5	2004	12	☑	☐
	2400	IDES Filiale 1 IT Ko...	2005	6	2005	5	2004	12	☑	☐
	2500	IDES Netherlands	2005	6	2005	5	2004	12	☑	☐
	2600	IDES IDES Italia				0		0		☐	☐
	2700	IDES Schweiz	2005	6	2005	5	2004	12	☑	☐
	2800	China				0		0		☐	☐
	3000	IDES US INC	2005	6	2005	5	2004	12	☑	☐
	3010	Euro Subsidiary - Be...	2005	6	2005	5	2004	12	☑	☐
	3050	IDES Subsiduary UK	2005	6	2005	5	2004	12	☑	☐
	3500	IDES Cons. Integrati...	2005	6	2005	5	2004	12	☑	☐
	4000	IDES	2005	6	2005	5	2004	12	☑	☐

Figure 15: Maintaining Company Codes for Materials Management

With the initialization of a company code, specify for the first time, the current posting period and the fiscal year for the material master records (accounting data) that belongs to a company code.

Initialization of a Company Code

Initialize Period for Material Master Records

From company code

To company code

Enter next period (including fiscal year) or a relevant date
(but not both)

Period

Fiscal year

   or

Date

Figure 16: Initializing a Company Code

Initialize a company code in *Customizing Logistics - General->Material Master → Tools → Initialize Period* (MMPI).

For the monthly closing of an accounting period in materials management, you use the period closing program. To call this program, on the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Other → Close Period* (`MMPV`).

> Note:
> You cannot reverse the closing of a period by using the period closing program. If you accidently close the period, you must reinitialize it (see SAP Note 487381).

LESSON SUMMARY
You should now be able to:

- Define basic settings for material master records

📖 # Creating Material Types

42

LESSON OVERVIEW

This lesson explains the different material types and how to create them. It also explains how to manage maintenance and material status, and the output formats of material numbers.

Business Example

In an SAP system, you are required to customize processes in individual applications as per your company's requirements.

For this reason, you require the following knowledge:

- An understanding of how to create material types

- An understanding of how to manage maintenance and material status for different material types

- An understanding of how to assign numbers for material master records

- An understanding of how to manage the output format of a material number

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create material types

Material Types
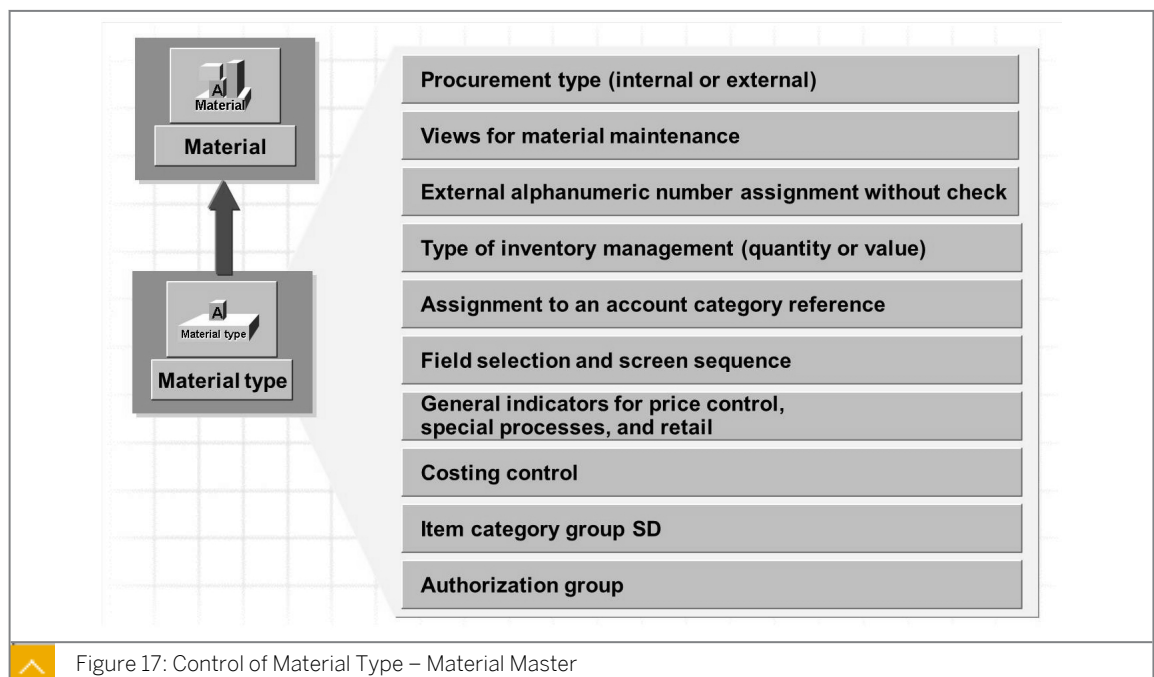
Figure 17: Control of Material Type – Material Master

SAP®

Using a material type is a way of grouping materials that have the same basic properties, such as raw materials, semi-finished products, and finished products. When you create a material master record, assign the material to a material type. The material type belongs to the general data on the material and controls important processes in individual applications. In Customizing for Production Planning (PP), specify the material types for which you want to allow or preclude the creation of bills of material and routings, as per your company's requirement.

The material type controls the following options:

- Whether the material is intended for a certain purpose

- Whether the material number assignment is internal or external

- Which number range interval is assigned to the material number

- Which screens appear during material master maintenance, and in what order

- Which user department data can be entered

- Which procurement type(s) the material can have

The user departments (maintenance status) defined for a certain material type determine which views can be maintained for a material of this type. The user departments also determine which applications can use the material.

Using the entries for external and internal orders, specify how materials of a certain type can be procured. In addition, use special procurement keys in the material master record to restrict the procurement type for each material and plant.

Define the type of inventory management (quantity-based and value-based, or only quantity-based) for a material type on a valuation area-dependent basis.

Define the indicator for price control (standard price or moving average price) as a default value or as a mandatory preset value.

The system assigns the stock and consumption accounts using the valuation classes. The account category reference establishes the link between valuation classes and the material type.

Specify which material types you can maintain with the special creation transactions that you can access on the *SAP Easy Access* screen by choosing *Logistics → Materials Management → Material Master → Material → Create (Special)*.

> Hint:
> You can only change a material type for a material subject to certain restrictions. You must assign either the old or the new material types to the same account category reference or there must be no stocks, purchase orders, or reservations for this material.

Only SAP Retail uses the individual indicators that you can set for material types (such as *Material Type ID* and *Time Till Deleted*).

Maintenance Status
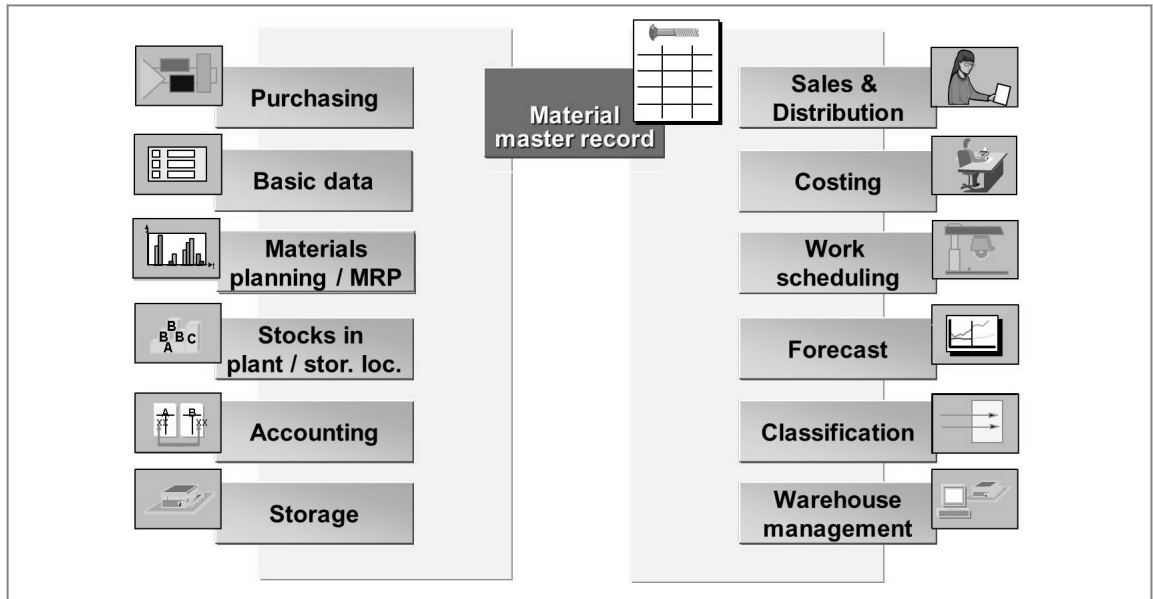
Figure 18: Maintenance Status for Material Master Records

The maintenance status of material is a key showing which user departments have maintained the material master record.

You can use a material in the Logistics functions only if the material has certain maintenance statuses. A valuated material that you want to purchase for receipt into stock, for example, must have at least the maintenance status E (purchasing) and B (accounting).

Each user department has its own views of a material master record.

Maintenance Status and Views
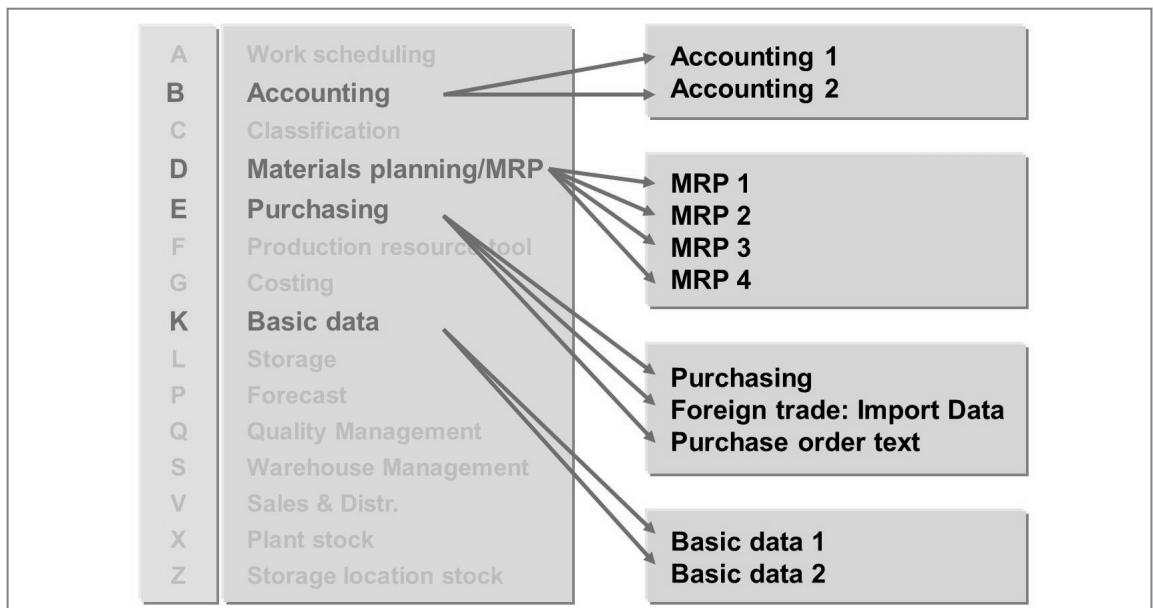
Figure 19: Maintenance Status and Views

You can look at the assignment of views for the maintenance status in Customizing under *Configuring the Material MasterDefine Structure of Data Screens for Each Screen Sequence*.

For bills of material (BOM) and routing management, you must create at least one view at the plant level.

To check whether any materials are maintained for your user department, you can call the *Extendable Materials* function: on the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Other → Extend Material View(s)* (MM50). Enter the maintenance status corresponding to your user department and any other relevant selection criteria. You can then enhance the material master record directly from the overview list of materials that displays.

Material Types Display

Figure 20: Display Material Types

The figure, from Customizing, shows the specifications for the raw materials material type (ROH).

Number Assignment for Material Master Records
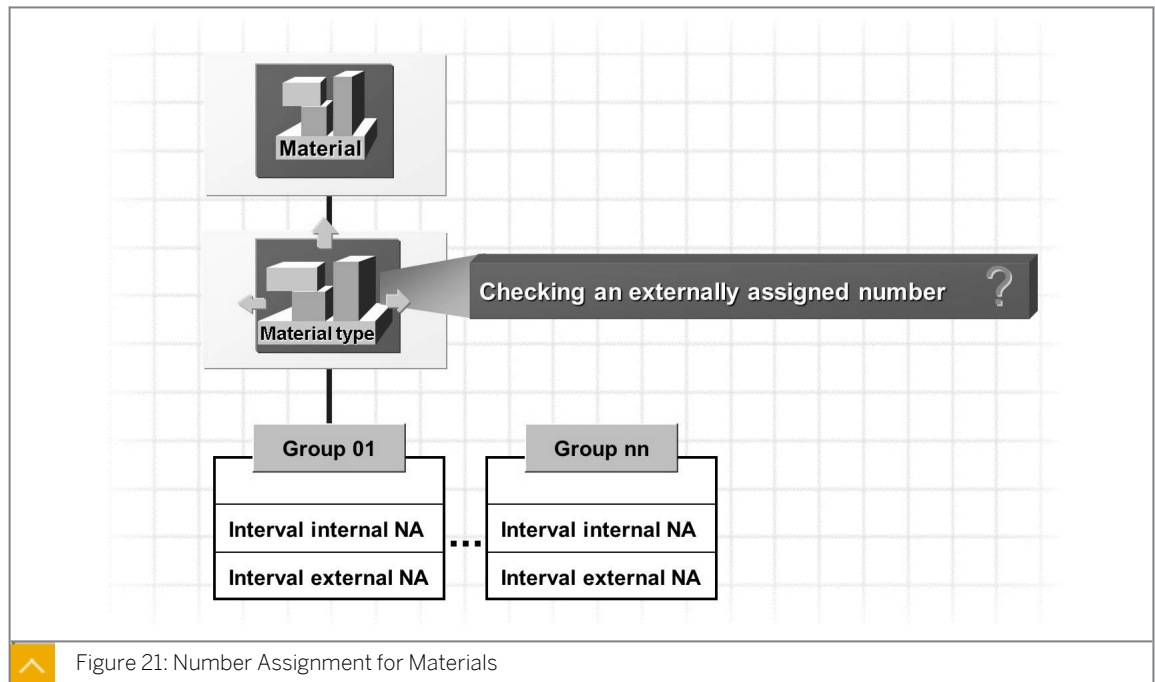
Figure 21: Number Assignment for Materials

In the SAP system, materials are uniquely identified by material numbers. As a rule, for each material a company uses, a material master record must exist. The system stores each existing material master record under material number.

Create material master records with internal or external number assignment. In case of internal number assignment, the SAP system assigns the material number when you first create a material master record. Material master records differ in this respect from documents and other master data in an SAP system. If you want to extend an existing material master record, quote the number of the material in the creation transactions.

> Hint:
> You can only assign the internal number assignment for a numerical range.

Administer the number ranges for groups of material master records in the following steps:

1. Maintain the groups and group intervals.

2. Assign material types to the groups.

Assign an interval to only one group. However, you can assign an interval to each group for both internal number assignment and external number assignment.

You can manually change the current number level of an interval. Select the *External no. assignment w/o check* checkbox for the material type to specify whether the system has to check if the material number belongs to a specific number range in the case of external number assignment. If you do not want the system to check the material number, ensure that every externally assigned material number (for this material type) is alphanumeric. You need not assign an external number range interval for a group of this material type.

The standard system uses a buffering system for number assignment in the case of material master records. There are 10 numbers for buffering. As a result of buffering and the assignment of the material number before the system saves a new material master record, gaps in number assignment might occur. If you reset the current number level of an interval to the starting value of zero, the gaps are closed when new materials are created.

> **Hint:**
> To view the specifications for number assignment for material master records on the *SAP Easy Access* screen, choose *Tools → ABAP Workbench → Development → More Tools → Number Ranges*.
>
> The object name is *MATERIALNR*.

Any change in buffering counts as a modification.

You can use user exit `MGA0002` to assign numbers of material master records in accordance with the company specifications in your enterprise.

Output Format of Material Number
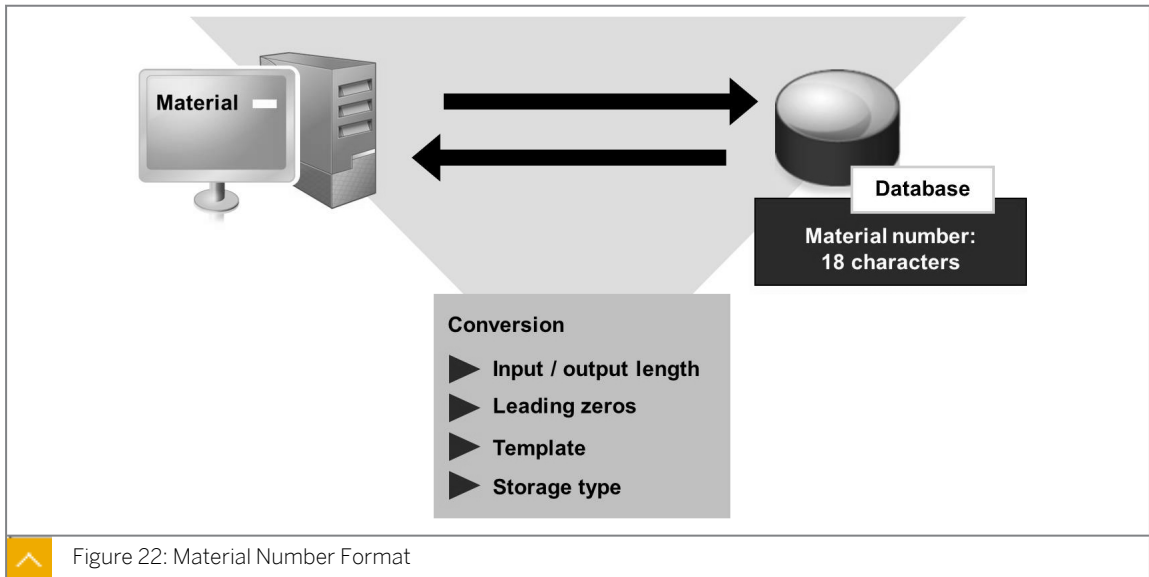
Figure 22: Material Number Format

The specifications for the input or output length, output of the leading zeroes, and template settings apply to online and print activities only.

<mark>A material number in an SAP system can have a maximum of 18 characters.</mark>

You can use a template to change the format of the material number to create a clearer presentation for larger material numbers. You can use special characters in the template; however, they may not be part of a material number. The system does not store the special characters in the template with the material number.

An example of a template is as follows:

Template   _ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _

Material number and its format

123456   1 2 3 . 4 5 6

123456XY   1 2 . 3 4 5 . 6 X Y

To interpret numeric material numbers as labels instead of numbers, select the lexicographical format. You must specify the format before you create the first material master record.

Material Status

Figure 23: Material Status
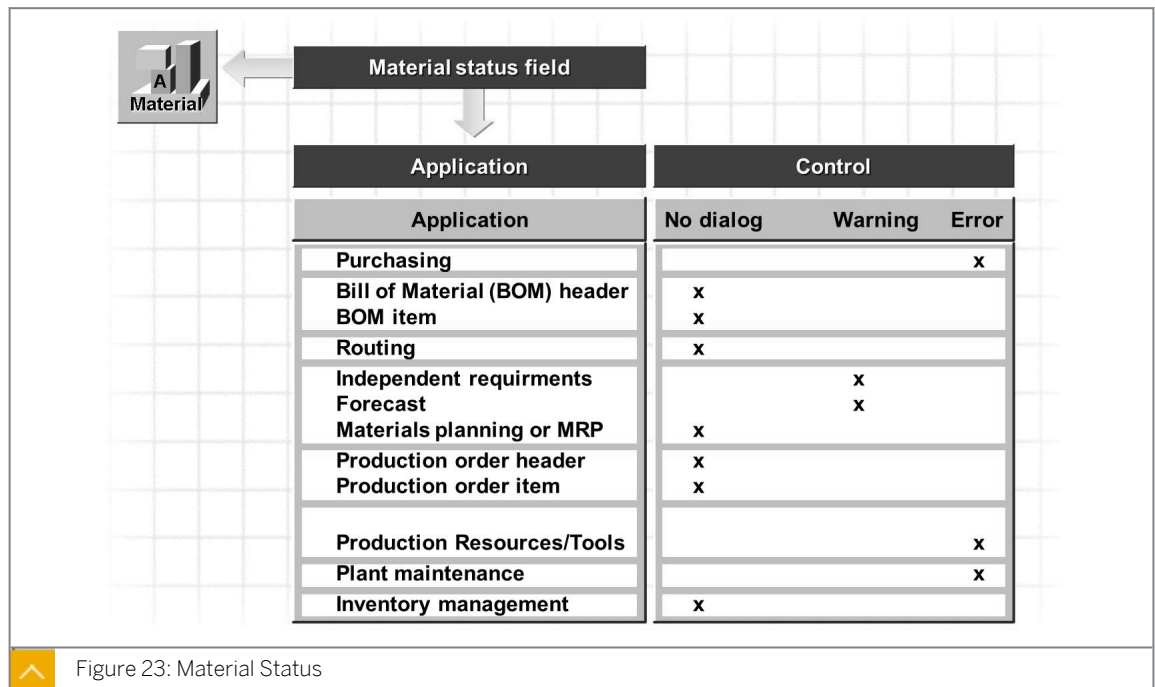
The material status determines how the system treats the material in different applications, and in business transactions, such as purchasing, material requirements planning (MRP), and bills of material (BOM). This material status enables you to restrict the usability of a material for various business applications.

You can set a status in the relevant master record for each material. If the material status has been set for a material the system uses, an SAP system issues a warning or an error message (according to the properties of the status). In the basic data view, you can enter a cross-plant material status. The applied material status then applies to all plants. For example, you can specify the material status on a plant-specific basis in the purchasing or MRP views.

> **Hint:**
> You can maintain a distribution chain or cross-distribution chain material status for the sale and distribution of materials in the *Sales: Sales Org. 1* view.

Material Status Definition

Figure 24: Define Material Status

The figure, from Customizing, shows the definition of a materials status for which no provision has been made for either forecasting or requirements planning and the system does not allow purchase activities. The system allows movements of goods, because the *Inventory management* status is blank.

The entry *B* for the application *Purchasing* will cause the system to issue an error message in the event of a purchase transaction for a material with the status 01. If the system issues a warning message (instead of an error message) in the case of purchase transactions, you must enter a material status *A* for the application *Purchasing* in the material master record.

How to Create Material Types

Demonstrate how customers change Customizing settings, and introduce the ways in which customers can adjust an SAP system to meet their company's requirements.

1. In *Customizing, go to Logistics - General → Material Master → Basic Settings → Material Types → Define Attributes of Material Types*.

    a. Show and explain the specifications for material type *ROH.*

    b. Copy material type *ROH* to create a new material type for office supplies, for example, for which the system allows significantly fewer views for maintenance (the views *Purchasing* and *Accounting* suffice).

    c. Create a material master record with your new material type (views *Purchasing* and *Accounting 1*).

      d. Create another material master record with your new material type.

      e. Run transaction `MM50` and show that no unnecessary MRP or forecast data can be maintained for either of these material master records.

2. In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Number Ranges for Each Material Type*.

      a. Show the number assignment for material master records (standard setting).

      b. Set up a separate number range for the materials of your new material type.

      c. Allow internal number assignment only and demonstrate this setting by creating new material master records.

      d. Show the change in current number level following the creation of new material master records. Show the specifications for the buffering (transaction `SNRO`) and name the advantages of and reasons for buffering.

3. In *Customizing*, go to *Logistics - General → Material Master → Settings for Key Fields → Define Material Statuses*.

      a. Show the specifications for the material status *BP* (*Blocked for Purchasing*).

      b. Change the material `R-T119`. Assign material status *BP* and show the result.

Create Material Types

51

Business Example

Many of the products needed in the organizational units of your company are manufactured in other organizational units and can, be procured internally. To consider the special aspects of such an internal procurement chain, your implementation team decides to create a new material type.

Many of the materials are manufactured in one plant and supplied to another plant for manufacturing a different material. Your new material type will combine the attributes of the standard material types *ROH* and semi-finished products (HALB).

Define a new material type, check the attributes of material types, and configure number assignment for material master records.

Task 1

Define a new material type.

1. Note down in keywords the controls that you can influence with a material type. Name possible reasons or list different examples that, in your opinion, justify a separate material type.

   _____

   _____

   _____

2. Define a new material type as **GR##** with the designation as *Material Type ##*.

   Choose material type *ROH* as the template from which you need to copy your new material type.

   Define the following attributes for the new material type. Note how you achieve these attributes.

   Specify that both external and internal procurement are allowed for the new material type.

   _____

   _____

   _____

   Specify that the system assigns only the material number internally for materials of the new type.

   _____

   _____

   _____

Specify that the following user departments and work areas are allowed to maintain the master records of materials belonging to the new material type:

- *Work Scheduling*

- *Accounting*

- *MRP*

- *Purchasing*

- *Costing*

- *Basic Data*

- *Storage*

- *Forecasting*

- *Sales*

- *Plant and Storage Location Stocks*

Specify that only price control *S* is allowed and is mandatory for the new material type.

All other settings are to be identical to those for material type *ROH* and need not be changed.

Task 2

Check number assignment.

1. Check whether the internal number range interval *200000000 – 299999999* for your material type *GR##* already exists.

   The following groups already exist:

Intervals for	Internal Number Assignment		External Number Assignment	
Name	from	to	from	to
Group 1	*1*	*9999999*	*A*	*ZZZZZZZ*
CRM	*100000000*	*199999999*		
SCM	*200000000*	*299999999*		

   The desired interval already exists and is assigned to group *SCM*.

2. Define number assignment in such a way that the numbers for materials of material type *GR##* can only be assigned internally using the number range interval from *200000000* to *299999999*.

3. Test your settings by creating a new material master record with your material type *GR##* for plant *1000*. Choose industry sector *M* (*Mechanical Engineering*). Check the special attributes that you define for your material type.

Is external number assignment possible for your material type? Test this using any numeric or alphanumeric number.

_____
_____
_____

Which views are offered to you for creation?

_____
_____
_____

Select only the following views:

- *Basic Data 1*

- *Purchasing*

- *MRP 1*

- *MRP 2*

- *Accounting 1*

Enter the following data:

Tab Page	Field Name	Value
Basic Data 1	*Material description*	SCM550-##
	Material Group	001
	Base Unit of Measure	PC
Purchasing	*Purchasing Group*	Z##
MRP 1	*MRP Type*	ND
MRP 2	*Procurement Type* (Checkbox)	X

On the *MRP 2* tab page, which procurement type is suggested, and why?

_____
_____
_____

Do not make any changes to this view.

Financial Accounting 1: Which price control is suggested? Can you change the price control?

_____

_____

_____

Which valuation classes are possible?

_____

_____

_____

Choose the valuation class *3000* and enter a standard price of `EUR 10` per piece.

Save the material master record and note its material number.

Create Material Types

55

Business Example

Many of the products needed in the organizational units of your company are manufactured in other organizational units and can, be procured internally. To consider the special aspects of such an internal procurement chain, your implementation team decides to create a new material type.

Many of the materials are manufactured in one plant and supplied to another plant for manufacturing a different material. Your new material type will combine the attributes of the standard material types *ROH* and semi-finished products (HALB).

Define a new material type, check the attributes of material types, and configure number assignment for material master records.

Task 1

Define a new material type.

1. Note down in keywords the controls that you can influence with a material type. Name possible reasons or list different examples that, in your opinion, justify a separate material type.

   a) Among other things, the material type controls the following attributes:

   - Procurement type
   - Allowed views
   - Quantity and value updates
   - Account determination
   - Number assignment
   - Field selection

   You create a new material type if you want to specify that fewer views can be maintained, postings are to be made to different accounts through automatic account determination, or a different field selection is to be used for certain materials.

2. Define a new material type as `GR##` with the designation as *Material Type ##*.

   Choose material type *ROH* as the template from which you need to copy your new material type.

   Define the following attributes for the new material type. Note how you achieve these attributes.

Specify that both external and internal procurement are allowed for the new material type.

Specify that the system assigns only the material number internally for materials of the new type.

Specify that the following user departments and work areas are allowed to maintain the master records of materials belonging to the new material type:

- *Work Scheduling*

- *Accounting*

- *MRP*

- *Purchasing*

- *Costing*

- *Basic Data*

- *Storage*

- *Forecasting*

- *Sales*

- *Plant and Storage Location Stocks*

Specify that only price control *S* is allowed and is mandatory for the new material type.

All other settings are to be identical to those for material type *ROH* and need not be changed.

a) In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Attributes of Material Types* (`OMS2`).

b) On the *Change View "Material Types": Overview* screen, select the material type *ROH* and then choose the 🗐 *Copy As* pushbutton.

c) On the *Change View "Material Types": Details of Selected Set* screen, enter the following data:

Field Name or Data Type	Value
Material Type	`GR##`
Description	`Material Type ##`

Choose *Continue*. Material type ROH is copied.

d) On the *Change View "Material Types": Overview* screen, select *GR##* material type and then choose the *Details* pushbutton.

e) On the *Change View "Material Types": Details* screen, in the *Internal/external purchase order* area, enter the following data:

Field Name or Data Type	Value
Ext. Purchase Orders	2
Int. purchase orders	2

f) Uncheck the *External no. assignment w/o check* checkbox.

g) In the *Users departments* list, select the user departments: *Basic data*, *Accounting*, *Sales*, *Costing*, *MRP*, *Purchasing*, *Work Scheduling*, *Storage*, *Plant Stocks*, *Storage location stocks* and *Forecasting*.

Deselect any irrelevant user departments from the list.

h) In the *Valuation* screen area, in the *Price Control* field, change the value to *Standard price* and set the *Price Ctrl Mandatory* checkbox.

i) Save your entries.

Task 2

Check number assignment.

1. Check whether the internal number range interval *200000000 – 299999999* for your material type *GR##* already exists.

    a) In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Number Ranges for Each Material Type* (MMNR).

    b) Choose 👷 (Overview).

    The following groups already exist:

Intervals for	Internal Number Assignment		External Number Assignment	
Name	from	to	from	to
Group 1	*1*	*9999999*	*A*	*ZZZZZZZ*
CRM	*100000000*	*199999999*		
SCM	*200000000*	*299999999*		

The desired interval already exists and is assigned to group *SCM*.

2. Define number assignment in such a way that the numbers for materials of material type *GR##* can only be assigned internally using the number range interval from *200000000* to *299999999*.

    a) In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Number Ranges for Each Material Type* (MMNR).

    b) Choose the *Maintain Groups* pushbutton.

c) On the *Group Maintenance: Number Range MATERIALNR* screen, select group *SCM* and position your cursor on material type *GR##*.

d) Choose the *Element/Group* pushbutton.

e) Save your entries.

3. Test your settings by creating a new material master record with your material type *GR##* for plant *1000*. Choose industry sector *M* (*Mechanical Engineering*). Check the special attributes that you define for your material type.

Is external number assignment possible for your material type? Test this using any numeric or alphanumeric number.

Which views are offered to you for creation?

Select only the following views:

- *Basic Data 1*

- *Purchasing*

- *MRP 1*

- *MRP 2*

- *Accounting 1*

Enter the following data:

Tab Page	Field Name	Value
Basic Data 1	*Material description*	`SCM550-##`
	Material Group	`001`
	Base Unit of Measure	`PC`
Purchasing	*Purchasing Group*	`Z##`
MRP 1	*MRP Type*	`ND`
MRP 2	*Procurement Type* (Checkbox)	`X`

On the *MRP 2* tab page, which procurement type is suggested, and why?

Do not make any changes to this view.

Financial Accounting 1: Which price control is suggested? Can you change the price control?

_____

Which valuation classes are possible?

_____

Choose the valuation class *3000* and enter a standard price of `EUR 10` per piece.

Save the material master record and note its material number.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately* (`MM01`).

b) On *Create Material (Initial Screen)*, enter the following data:

Field Name or Data Type	Value
Material	`R-##`
Material Type	`MATERIAL TYPE ##`

c) Choose *Continue*.

If you enter a number externally, you must get the system message " *No external number assignment possible for material type* "*Material Type-##*"" when you choose *Continue*.

> **Hint:**
> However, if you get to the view selection screen, recheck the attributes of your material type to see whether the *External no. assignment w/o check checkbox* is still set.

d) In the *Select Views* dialog box, in the *Views* list, the following views should be permitted: *Basic Data 1*, *Basic Data 2*, *Sales: Sales Org. Data 1*, *Sales: Sales Org. Data 2*, *Sales and Distribution: General/Plant Data*, *Foreign Trade: Export Data*, *Sales Text*, *Purchasing*, *Foreign Trade: Import Data*, *Purchase Order Text*, *MRP 1*, *MRP 2*, *MRP 3*, *MRP 4, Forecasting*, *Work Scheduling*, *General Plant Data/Storage 1*, *General Plant Data/Storage 2*, *Accounting 1*, *Account 2*, *Costing 1*, and *Costing 2*.

On the *Organizational Levels* dialog box, enter `1000` in *Plant* field and `0001` in *Stor. Location* field. Select only the following views:

Basic Data 1

Purchasing

MRP 1

MRP 2

Accounting 1

e) Choose *Continue*.

f) On the *Create Material <Material number>* (*Material Type ##*) screen, enter the following data:

Tab Page	Field Name	Value
Basic Data 1	*Material description*	`SCM550-##`
	Material Group	`001`
	Base Unit of Measure	`PC`
MRP 1	*MRP Type*	`ND`
MRP 2	*Procurement Type (Checkbox)*	`X`
Accounting 1	*Price Control*	`S`

g) Enter **3000** in the *Valuation Class* field and enter **10** in the *Standard price* field.

The *Valuation Class* field has four options *3000*, *3001*, *3002*, and *3003.*

h) Save your entries.

LESSON SUMMARY
You should now be able to:

- Create material types

Setting Up Field Selection for Material Master Records

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LESSON OVERVIEW

This lesson gives an overview of possibilities and interrelationships in the definition of field attributes. The definition of field attributes is significant because, for some materials, you must define certain fields of material master records as mandatory. It is better to suppress the unnecessary fields by using the field selection control.

> In field selection, you focus on field attributes. Point out to the participants that they should not combine attributes *hide* and *required entry* for a field because these attributes are contradictory specifications. In field selection control, you can only specify field attributes, not field content. Therefore, in this lesson, it may be useful to refer participants to the profiles (Material Requirements Planning [MRP] profile and forecast profile).

Business Example

For your new material type, it is mandatory to maintain the data in certain fields in the material master record. For this reason, you require the following knowledge:

- An understanding of field selection control and its influencing factors

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Configure field selection for material master records

Overview of Settings for Field Selection

The Customizing activities for field selection, during material master record maintenance, allow you to specify whether a field is to be hidden, displayed only, or ready for input. If the field is ready for input, you can specify whether a user input is required or optional.

You can consider different aspects with various influencing factors. For example, you can change the field selection for materials of a certain material type or belonging to a certain industry sector or a plant.

Field Selection Groups and Field References

Figure 25: Assigning Fields to Field Selection Groups
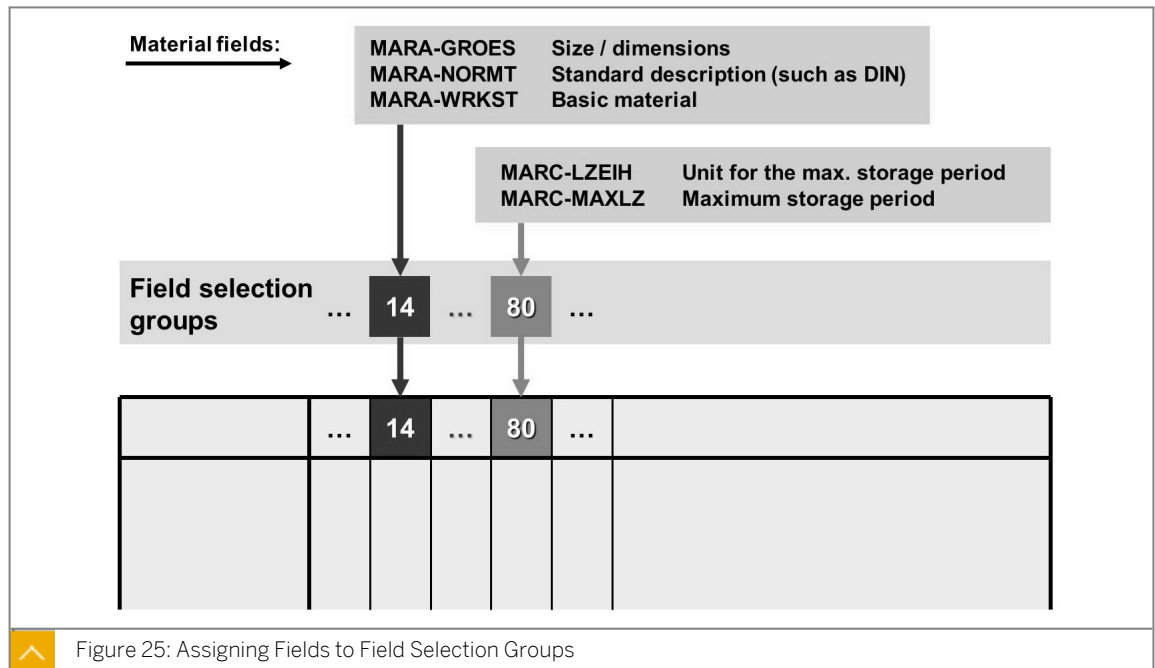
When you process a material master record, apply several Customizing settings to determine the field selection.

Unlike many other data settings for field selection in an SAP system, you cannot make the field selection settings separately for each field in material master records. You can specify these settings only for a group of fields.

In material master record maintenance, perform the field selection using field selection groups that the system assigns to the fields of the master record.

For each field in the field selection group, you can specify the following attributes:

* Hide

  Hide means that the fields are suppressed (invisible) during maintenance of the relevant material master record. This attribute is appropriate for fields that your enterprise does not need.

* Display

  Display means that the fields appear on the screen but are not ready to accept input.

  This attribute is appropriate for fields that you fill in your company, for example, at the time of data transfer, and whose values are not to be changed.

* Required entry

  Required entry means that user input in these fields is mandatory.

  It is appropriate for fields that need to fill with user-provided data in your enterprise.

> Caution:
> When changing, note that there are individual fields in an SAP system for which the program demands input. Do not suppress such fields.

- Optional entry

  Optional entry means that user input is possible but not mandatory.

  It is appropriate for fields in which input is not mandatory but you want to use for certain information, if necessary.

You can change the assignment of the fields for material master records to field selection groups in cases where some fields of a field selection group are to be controlled uniformly. In the current SAP release, there are 240 field selection groups that can be used for customer-specific changes. Some of these groups are used in the standard system.

> **Note:**
> Further details of the groups are provided in the documentation of the Implementation Guide.

Field Selection for Material – Influencing Factors
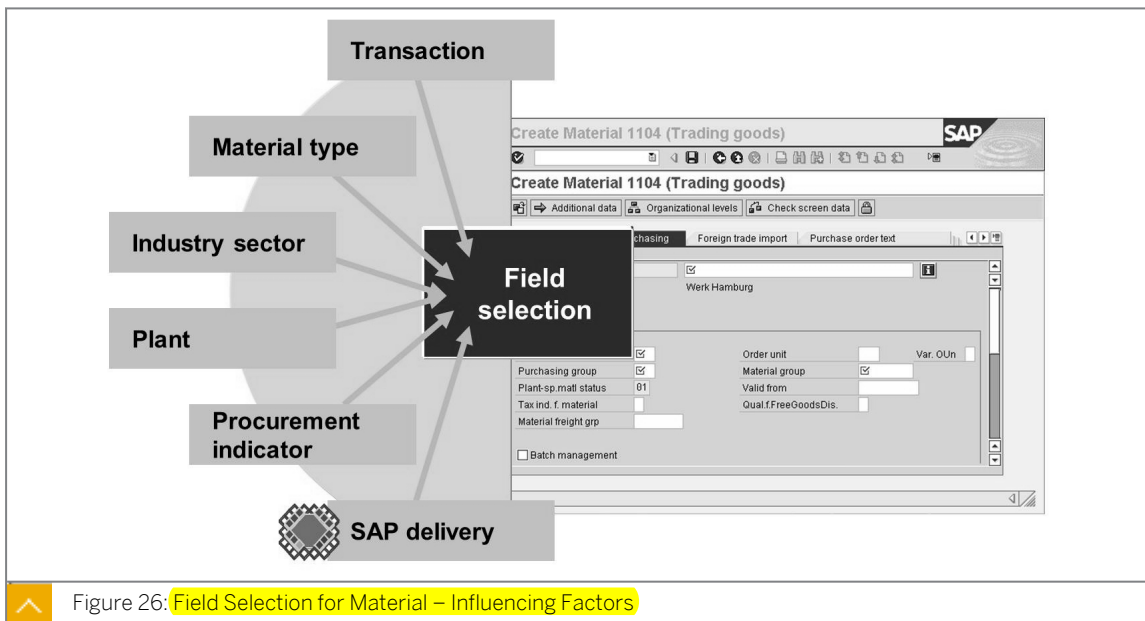
Figure 26: Field Selection for Material – Influencing Factors

Various factors, such as the material type and industry sector, influence field selection. These factors are taken from the special business process of material master record maintenance.

Field selection for material master records depends on the following factors:

- The transaction that a user calls

  A different field selection applies when a user creates a material master record instead of when the system displays a master record.

- The procurement type E or F of specific material

  The field selection for material master records with in-house production differs from the field selection for master records with external procurement.

- The material type

  You can define field selection for every material type by using a field reference.

- The actual plant

  You can define field selection for every plant by using a field reference.

- The industry sector that you have assigned to the material

  You can enable field selection for materials belonging to the chemical and mechanical engineering industries.

- The SAP system

  You can define the field references of SAP delivery, which apply and take into account the SAP solution (industry, retail, and business solution) and the release level in use.

Field References

Figure 27: Field References
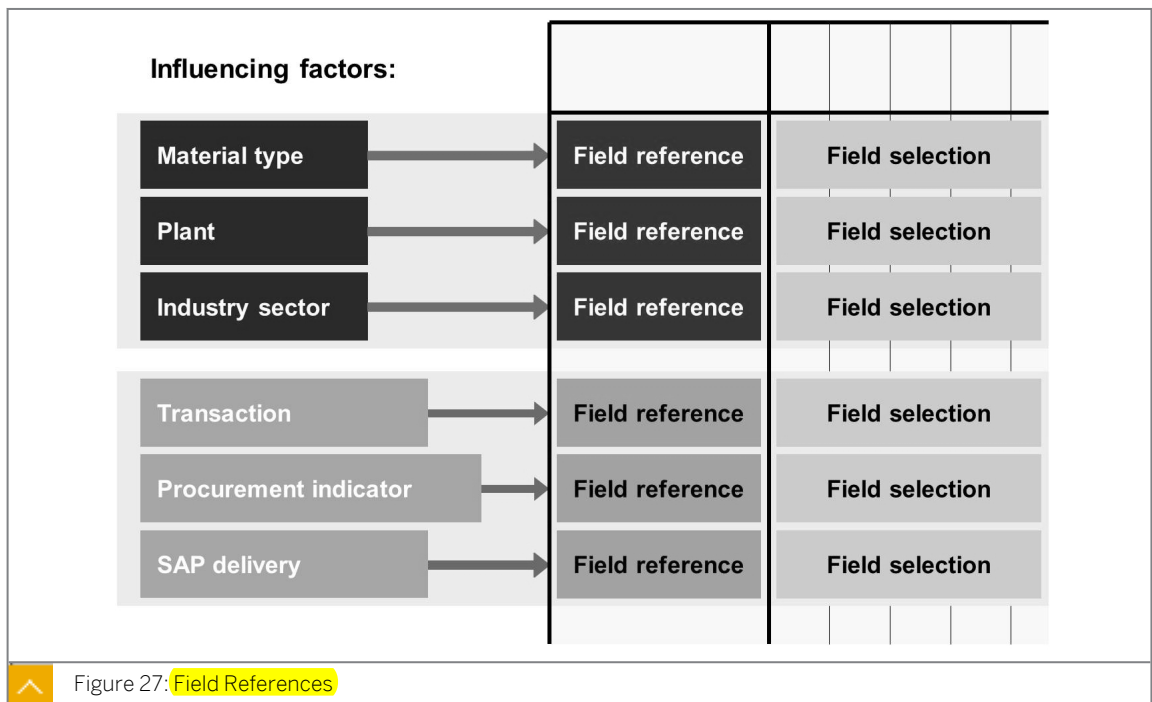
Field references control field selection. You can assign field references in Customizing to the influencing factors, material type, plant, and industry sector. SAP maintains the assignment of a field reference to transaction codes, procurement types, and SAP delivery. You cannot change the assignment of these field references in Customizing.

> 💡 Hint:
> You must only create customer-specific (new) field references for material master record field selection for the influencing factors, material type, plant, and industry sector.

In the standard system, the designations of the keys for the field references match with those of the influencing factors.

The following are examples of field references for different influencing factors:

- Material type

  Field reference *ROH* for material type *ROH* (raw material)

- Plant

    Field reference *0001* for plant *0001*

- Industry sector

    Field reference *M* for industry *M* (mechanical engineering)

- Transaction

    Field reference `MM01` for the transaction Create Material (transaction `MM01`)

- Procurement type

    Field reference *E* for materials with procurement type *E* (in-house production)

If you have to change the field selection, you may need to assign fields to other field selection groups.

You change the field selection control by using field references. Which field reference you have to change in the process depends on the area of validity. You change the field reference M, for example, if your change is to affect all the materials of the mechanical engineering industry sector.

Field Selection Groups and Field References
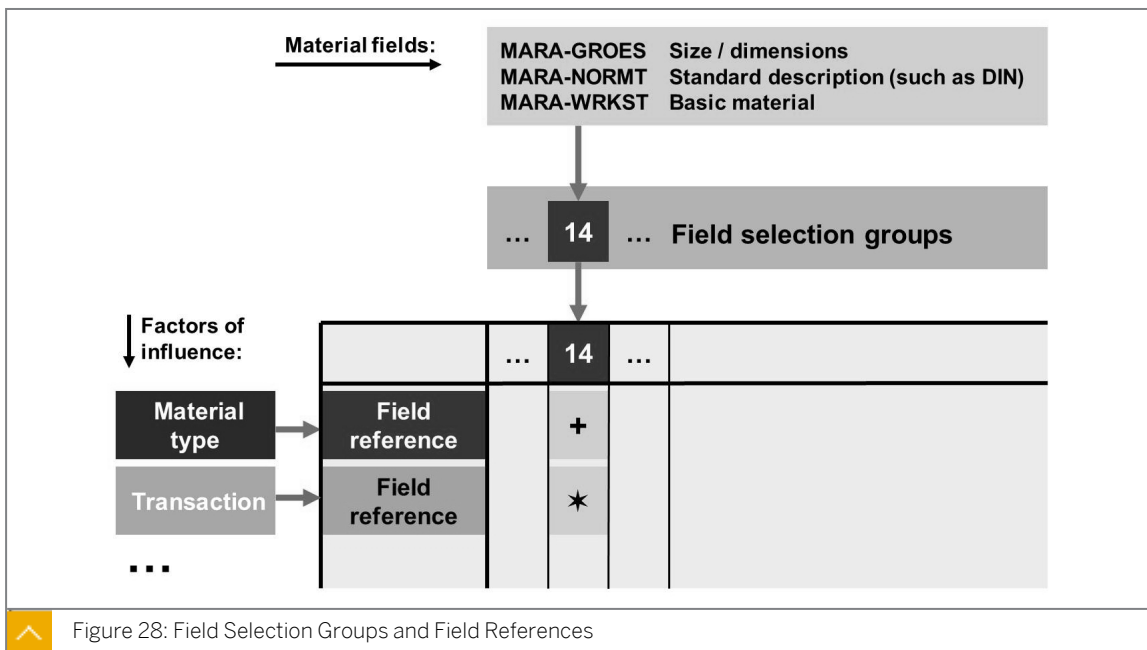
Figure 28: Field Selection Groups and Field References

Several field references are used to control field selection. The system links together the entries of all field references applicable to the relevant transaction.

Field Attributes and Link Rules

Figure 29: Field Attributes and Link Rules
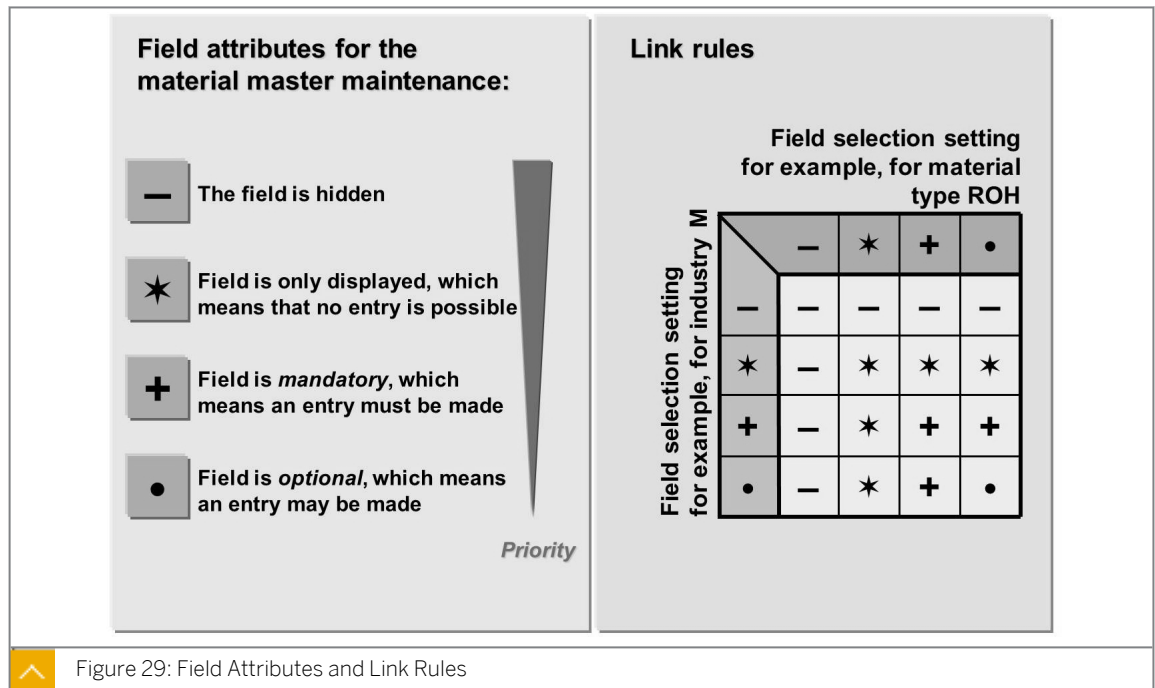
The link rules shown in the figure determine the result of field selection for each field selection group. The link rules are predefined by the SAP system and you cannot change them.

The symbols in the figure have the following meanings:

Symbol	Meaning
–	Suppress
*	Display
+	Required entry
.	Optional entry

As shown in the figure, if the specifications diverge, the attribute with the highest priority always applies to each field selection group.

To Change Field Selection for Material Master Records

1. Determine the field selection group that contains the field you wish to change.

2. Determine whether other fields also belong to this field selection group.

3. Check whether the change in field selection should also apply to the other fields in this field selection group.

4. Determine the influencing factor for changing the field selection (for example, material type).

5. Determine the current field reference for this influencing factor.

6. Change the field reference or create a new field reference with your changes.

7. Test your settings. If you create a new field reference, you need to assign it to the influencing factor (for example, material type) beforehand.

LESSON SUMMARY
You should now be able to:

- Configure field selection for material master records

Defining Field References for Material Master Records

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LESSON OVERVIEW

This lesson shows you how to define and manage the field references for material master records.

Business Example

To define the field references for material master records, you need to make Customize settings in the SAP system and introduce the options for adjusting the SAP system to your company's specific requirements. For this reason, you require the following knowledge:

- An understanding of field selection control and its influencing factors

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Define field references for material master records

Settings for Field Selection in the SAP System

Change View "Field Groups": Overview

Field name in full	Short Text	Sel. gr...	
MARA-AESZN	Document change number (without document management system)	12	
MARA-BEGRU	Authorization Group	36	
MARA-BEHVO	Container requirements	87	
MARA-BISMT	Old material number	11	
MARA-BLANZ	Number of sheets (without Document Management system)	12	
MARA-BLATT	Page number of document (without Document Management system)	12	
MARA-BMATN	Number of firm's own (internal) inventory-managed material	123	
MARA-BREIT	Width	18	
MARA-BRGEW	Gross weight	16	
MARA-BSTME	Order unit	21	
MARA-BWSCL	Source of Supply	158	
MARA-BWVOR	Procurement rule	158	

Sort and position

Field name	Field name	Entry 98 of 856
Field sel. group	Field sel. group	

Figure 30: Assigning Fields to Field Selection Groups

The figure shows the assignment of field selection groups to material master record fields in Customizing.

You can use the functions at the bottom to resort the table entries or quickly position the cursor on a certain table entry. Before changing the grouping, get an overview of the current grouping by using the print and display function. You can call this function from the menu bar through *Table View → Print*.

> **Hint:**
> If you select a field and go to the details, you find the *Propose field Content* attribute. This attribute specifies that the field content is proposed from the reference material when creating a material master record using a reference material.

You can also use ➡ (*Field Selection Maintenance*), to go directly to field selection maintenance for the fields in this field selection group.

Field References

Figure 31: Maintaining Field References

The figure shows the maintenance of the fields belonging to field selection group 14 in Customizing. You see the fields assigned to this group in the upper block.

In the middle part of the screen, you can choose whether the fields of the displayed field selection group are to be suppressed, displayed only, or ready to accept input as optional or mandatory fields. The priority of these settings for field variants decreases from left to right, which means that the suppression of fields has the highest priority.
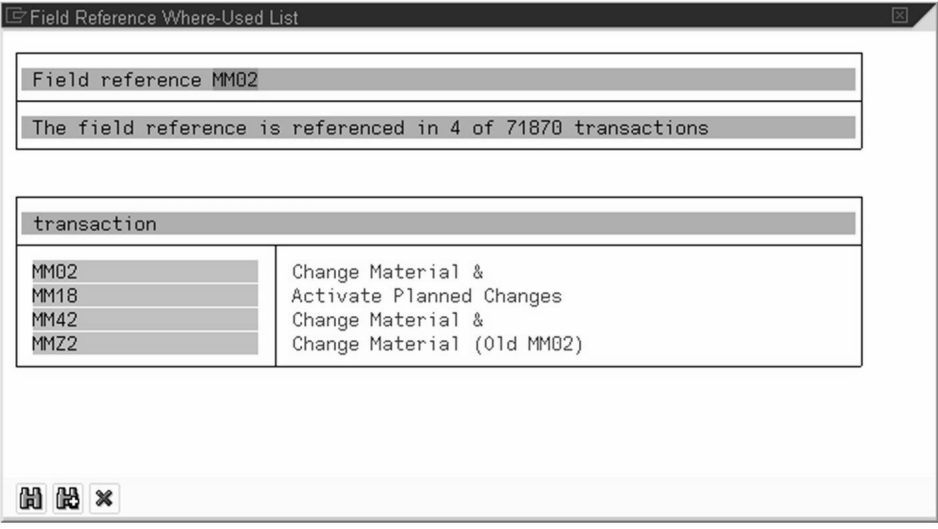
You can use the functions at the bottom to resort the table entries or quickly position the cursor on a certain table entry.

The SAP system contains field references that apply to the entire client. The field references *SAP1* and *SAP2* apply to the standard SAP system (industry solutions). *SAPR* applies to SAP for Retail clients. Avoid changing these field references.

The SAP system contains the field reference KB that is valid for all types of clients. If the field selection changes at client level, adjust this field reference according to the requirements of your enterprise.

Use the ⬄ (Where-*Used List*) function, to view the transactions where the selected field reference is used.

Where-Used List for Field Reference

Figure 32: Where-Used List for Field Reference

The field reference MM02, for example, is a valid influencing factor when each of the transactions MM02, MM18, MM42, and MMZ2 is called.

Assignment of Field Reference and Plant

Figure 33: Assignment of Field Reference and Plant

The figure shows the assignment of field references to individual plants in Customizing.

Further Factors Influencing Field Selection

Field Name	Description	Lock. Relevant
MARA-MEINS	**Base unit of measure**	✔
MARA-BISMT	**Old material number**	✔
MAKT-MAKTX	**Material short text**	✔

Change material...

🔒 Lock material → 🔓 Reverse material lock

Material M123	**Monitor, 17"**	Material M123	**Monitor, 17"**
Base unit	**PC**	Base unit	**PC**
Old material number	**A123**	Old material number	**A123**
...		...	

Figure 34: Lock-Relevant Fields

There are additional dependencies to the specifications for field selection that you can make in Customizing. When you enter **FX** (indicator for fixed lot size) in the *Material Requirements Planning* (*MRP*) *Lot Size* field on the standard view tab page *MRP 1*, for example, the *Fixed Lot Size* field becomes mandatory.

The program that the system accesses, controls the dependencies when you maintain material master records.

This program also causes the *Material Group* field in the *Basic Data 1* view to become a mandatory (required entry) field whenever you select purchasing data for the creation of a material master record.

You can define lock-relevant fields for the material master record. You can use this function only in material master records for industry, not in master records of SAP for retail. You specify, in Customizing, which fields of the material master record are lock relevant.

If you lock a material master record, the fields that are flagged as lock relevant in Customizing can no longer be changed in material master maintenance. In the dialog shown in the figure, these fields are no longer ready for input; the exception is required-entry fields in which you have to enter data when extending a material master record. The lock comes into effect when the system saves the material master record.

If you flag a field of a locked material master record as lock relevant and plan changes in the field, the system discards the changes. You can lock a material master record at any time during material master maintenance. You can only reverse the lock only with the corresponding special authorizations if the material is not subject to configuration management.

Authorization object is as follows:

- Activity 16 – user can lock materials

- Activity 51 – user can reverse material lock

You can also lock material master records and reverse the lock with mass maintenance (field *MARA-MATFI*).

▶ **How to Define and Assign Field Reference Keys**

Demonstrate how customers can adjust the SAP system to meet their company's requirements.

1. Call material master maintenance (for example, transaction `MM02` for material *M-01*) and show which fields in the *Basic Data 1* view are mandatory and which fields are optional in a standard SAP system.

   - Show changed specifications for field selection for the new material type (*GR##* = copy of participants' material types).

   - Suggestion: *Gross Weight*, *Net Weight*, and *Unit of Weight* fields.

   - Show the field label for one of these fields (Help (F1) → Technical information: MARA - BRGEW).

2. In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Assign Fields to Field Selection Groups*.

   - Show and explain the specifications.

   - All fields belong to field selection group 16.

   - Assumption: Field selection must be controlled on a uniform basis for all 11 fields.

3. In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Maintain Field Selection for Data Screens*.

   - Show and explain this action. Note the customer namespace (see transaction `SE11` for the *table → delivery class G*).

   - Define a suitable field reference *ZM00* for the new material type, defining which fields are mandatory. Assign this field reference to material type *GR00.*

   - Create a new material master record with material type *GR00*. Show that the three fields Gross Weight, Net Weight, and Unit of Weight are now mandatory, along with others fields such as the *Source List Requirement* field.

4. In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Assign Fields to Field Selection Groups*.

   - Assign the empty field selection group *120* to the three fields *Gross Weight*, *Net Weight*, and *Unit of Weight*.

   - Show that all settings for field selection group *016* must be transferred for selection group *120* (example: Field reference *DIEN*).

   - Change field reference *ZM00* (field selection group *016* is an optional field and field selection *120* is a required-entry field). Show that the field selection specifications for material type *GR00* are now as desired.

5. In Customizing, go to *Logistics - General → Material Master → Field Selection → Define Industry Sectors and Industry-Sector-Specific Field Selection*.

   - Show and explain this activity.

     In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Define Plant-Specific Field Selection* and define a plant specific screen selection.

   - Show and explain this activity. Point out the significance of the checkboxes in the *Maintenance Status* column (and risk involved in changing them).

   - Define a field reference *ZW00* for your new plant – along the lines of the exercise.

6. In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Maintain Field Selection for Data Screens*.

   a. Select the following field reference:

   - *ZM00* for the materials belonging to your material type *GR00*

   - *ZW00* for the maintenance of plant-dependent data in your plant

   - *M* for the maintenance of materials belonging to the mechanical engineering industry

   - *MM01* for the create material transaction

   - Possibly *E* or *F* or *neither*, depending on which procurement type has been defined for your material type

   - ==*SAP1* and *SAP2* and *KB* because these field references apply to the whole client==

7. Choose *Selection → All Selected Entries* and show the result of all specifications for selected field selection groups.

Adjust Settings for Field Selection

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Business Example

You wish to prevent variable order units from being activated for materials of your new material type *GR##*. Therefore, this field is to be hidden.

In the case of material type *ROH*, this field is to remain an optional entry field.

Change the field selection settings for materials of the new material type and change plant dependent settings.

Task 1

Specify field selection settings for materials of the new material type.

1. Before specifying the required Customizing settings for field selection, note which steps and entries are necessary.

   Step 1:

   _____
   _____
   _____

   Step 2:

   _____
   _____
   _____

   Step 3:

   _____
   _____
   _____

   Step 4:

   _____
   _____
   _____

Step 5:

_____

_____

_____

Step 6:

_____

_____

_____

Step 7:

_____

_____

_____

2. Hide the *Var.OUn* field for materials of material type *GR##*. In doing so, use a new field reference with the key *ZM##*.

Note that your Customizing changes need to be applied only to the new material type *GR##*.

Do not change any settings that might affect the other exercise groups. Leave the settings for field reference *ROH* unchanged.

Task 2

Specify plant-dependent settings.

1. How do you make the *Availability check* field (this field is located on the *MRP 3* view) a mandatory field for all material master records of your new plant *TR##*?

Change the field selection control for this field and the influencing factor plant by using the same procedure as in the previous exercise.

Are any other fields affected by a change in the field selection? (Do not assign this field to another field selection group)

_____

_____

_____

Specify the settings. Use the key *ZW##* as the new field reference.

•

2. Test your settings. Extend the material master record by adding the *MRP 3* view for your new plant ->TR##. Enter the value **01** (= daily requirement) in the *Availability check* field.

_____

_____

_____

3. Optional:

How can you prevent the unnecessary creation of storage and sales data for the materials in plant *1400*?

Is it possible to make this setting dependent on the procurement type or material type?

_____

_____

_____

📖 Adjust Settings for Field Selection

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Business Example

You wish to prevent variable order units from being activated for materials of your new material type *GR##*. Therefore, this field is to be hidden.

In the case of material type *ROH*, this field is to remain an optional entry field.

Change the field selection settings for materials of the new material type and change plant dependent settings.

Task 1

Specify field selection settings for materials of the new material type.

1. Before specifying the required Customizing settings for field selection, note which steps and entries are necessary.

   Step 1:

   _____

   Step 2:

   _____

   Step 3:

   _____

   Step 4:

   _____

   Step 5:

   _____

Step 6:

_____

Step 7:

_____

a) For the Customizing settings for field selection, perform the following steps:

Step 1

Determine the field selection group to which this field belongs.

Step 2

Check if there are further fields in this field selection group.

Step 3

If there are other fields in this field selection group, decide whether you want to apply the field selection to other fields of the field selection group concerned because the field selection can only be specified for field selection groups. If you want to apply the field selection, you need not take further action. If you do not want to apply the field selection, assign the field to another (if possible, a free) field selection group in the customer namespace.

You can assign several fields from the various field selection groups to a free field selection group.

Step 4

Determine the influencing factor for field selection.

Step 5

Determine the current field reference for the desired influencing factor.

Step 6

Change the field references that you determine, or create a new reference with the desired field attributes. If you create a new reference, assign it to the material type.

Step 7

Check whether your field selection shows the desired result.

> **Note:**
> If you are not satisfied with the result of the field selection settings, check the other influencing factors and find out whether the problem arises due to the links of individual field references. If, for example, you change a field previously defined as mandatory into an optional field in a field reference (for the material type, for instance), but the field is defined as mandatory in another field reference (for the transaction, for instance), the attribute required entry is retained.

2. Hide the *Var.OUn* field for materials of material type *GR##*. In doing so, use a new field reference with the key *ZM##*.

Note that your Customizing changes need to be applied only to the new material type *GR##*.

Do not change any settings that might affect the other exercise groups. Leave the settings for field reference *ROH* unchanged.

a) Step 1

On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (`MM03`).

On the *Display Material (Initial Screen)*, enter `M-##` in *Material* field and choose the *Select View(s)* pushbutton.

In the *Select View(s)* dialog box, select the *Purchasing* view and choose *Continue*.

In the *Organizational Levels* dialog box, enter `1000` in the *Plant* field and choose *Continue*.

On the *Display Material M-## (Trading Goods)* screen, on the *Purchasing* tab page, select the *Var. OUn* field and press F1 to open the *Performance Assistant* dialog box.

Choose the *Technical Information* pushbutton.

In the *Technical Information* dialog box, the value of *Screen Field* (field) is *MARA-VABME*.

To which field selection group does this field belong?

In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Assign Fields to Field Selection Groups*.

On the *Change View "Field Groups": Overview* screen, select the *MARA-VABME* row and choose the *Field Sel. Group* pushbutton.

The field name *MARA-VABME* is assigned to *sel. group 63*.

b) Steps 2 and 3

To find out whether any other fields belong to this group, choose *Sort by Field Selection Group* option and position the cursor on *sel. group 63*.

The only field belonging to *sel. group 63* is the *Variable Purchase Order Unit Active* field. You do not need to move this field into a different field selection group. Do not change the assignment to a field selection group for either this field or any other field during this exercise.

c) Step 4

The scenario specifies that the influencing factor for this change in the field selection is *Material Type GR##*.

d) Step 5

In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Attributes of Material Types*.

Material Type GR## has automatically acquired field reference ROH after you copied material type *ROH*.

Because the field selection has to apply only to the new material type *GR##*, you must create a new field reference and enter it in the attributes of the material type.

e) Step 6

a) In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Maintain Field Selection for Data Screens*.

b) On the *Change View "Field Selection for Data Screens": Overview* screen, in the *Field Selection (Field Selection Group 1)* screen area, select *field ref. ROH* and choose the *Copy as* pushbutton.

c) On the *Change View "Field Selection for Data Screens" Details of Selected* screen, enter `ZM##` in the *Field reference* field and select the *Hide* radio button for *sel. group 63*.

d) Save the new field reference.

> **Hint:**
> You can also branch directly from the activity *Assign Fields to Field Selection Groups* to *Field Selection*. To branch to field selection, choose the *To Field Selection Maintenance* pushbutton next to the appropriate field selection group.

e) In *Customizing*, go to *Logistics - General → Material Master → Basic Settings → Material Types → Define Attributes of Material Types*.

f) On the *Change View "Material types" Overview* screen, in the material type screen area, select *GR##* and choose the *Details* pushbutton.

g) On the *Change View "Material types" Details* screen, enter `ZM##` in the *Field reference* field.

h) Save your entries.

You need not consider the other influencing factors because the field is optional (that is, neither hidden nor display only) in the standard system.

f) Step 7

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately* (`MM01`).

b) On the *Create Material (Initial Screen)*, select *MATERIAL TYPE ##* from the *Material Type* list and *Mechanical Engineering* from the *Industry sector*. Next, choose the *Select View(s)* pushbutton.

c) In the *Select View(s)* dialog box, choose the *Purchasing* view and choose *Continue*.

d) In the *Organization Levels* dialog box, enter `1000` in the plant field.

e) On the *Create Material 200000### (Material Type ##)* screen, the *Var.OUn* field is hidden.

f) Exit the transaction.

g) On the *Create Material (Initial Screen)* screen, enter `ROH` in the *Material* field and select *Operating Supplies* from the *Material Type* list and choose the *Select View(s)* pushbutton.

h) On the *Select View(s)* dialog box, choose the *Purchasing* view and choose *Continue*. On the *Create Material ROH (Operating Supplies)* screen, the *Var.OUn* field is now optional.

Task 2

Specify plant-dependent settings.

1. How do you make the *Availability check* field (this field is located on the *MRP 3* view) a mandatory field for all material master records of your new plant *TR##*?
Change the field selection control for this field and the influencing factor plant by using the same procedure as in the previous exercise.

Are any other fields affected by a change in the field selection? (Do not assign this field to another field selection group)

_____

Specify the settings. Use the key *ZW##* as the new field reference.

a) Step 1

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current*.

b) On the *Display Material (Initial Screen)* screen, enter `M-##` in the *Material* field and choose the *Select View(s)* pushbutton.

c) In the *Select View(s)* dialog box, select *MRP 3* view and choose *Continue*.

d) In the *Organizational Levels* dialog box, enter `1000` in the *Plant* field and choose *Continue*.

e) On the *Display Material M-## (Trading goods)* screen, on the *MRP 3* tab page, select *Availability check* field and press F1.

f) In the *Performance Assistant* dialog box, choose the *Technical Information* pushbutton.

g) In the *Technical Information* dialog box, the value of *Screen Field* (field) is *MARC-MTVFP*.

To which field selection group does this field belong?

In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Assign Fields to Field Selection Groups*.

On the *Change View "Field Groups" Overview* screen, select the row for *MARC-MTVFP* field and choose the *Field Sel. Group* pushbutton. This field is assigned to *Sel. group 92*.

b) Steps 2 and 3

To find out whether any other fields belong to this field selection group, choose *Sort by Field Selection Group*. Position the cursor on *Sel. group 92*.

Availability check and *Description* are the only fields belonging to *Sel. group 92*.

> **Hint:**
> You can ignore the *Description* field. It is not necessary to assign the *Availability* check field to a different field selection group.

c) Step 4

The influencing factor here is plant *TR##*.

d) Step 5

   a) In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Define Plant-Specific Field Selection and Plant-Specific Screen Selection*.

   b) On the *Change View "Field Selection at Plant level": Overview* screen, the *Field reference 0001* has been entered for plant *TR##*.

     The change in field selection is only applied to the new plant *TR##*. Therefore, create a new field reference and enter it in the displayed table.

e) Step 6

   a) In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Maintain Field Selection for Data Screens*.

   b) On the *Change View "Field Selection for Data Screens" Overview* screen, in the *Field selection (Field selection group 1)* screen area, select the row for *Field ref. 0001* and choose the *Copy as* pushbutton.

   c) On the *Change View "Field Selection for Data Screens" Details of Selected Se* screen, enter `ZW##` in the *Field reference* field, then select the *Reqd Entry* radio button for *Sel. Group 92* and choose *Enter*.

   d) Save your entries.

   e) Enter the field reference for plant *TR##* in Customizing under *Logistics - General → Material Master → Field Selection → Define Plant-Specific Field Selection and Plant-Specific Screen Selection*.

   f) On the *Change View "Field Selection at plant Level": Overview* screen, for *Plant* TR##, enter `ZW##` in the *Field reference* field and save your entry.

f) Step 7

Check whether your field selection shows the desired result.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately*.

   b) On the *Create Material (Initial Screen)* screen, enter the following data:

Field Name or Data Type	Values
Material	`M-##`
Industry sector	`Mechanical Engineering`

Field Name or Data Type	Values
Material Type	`Trading goods`

    c) Choose the *Select View(s)* pushbutton.

    d) In the *Select View(s)* dialog box, select the *MRP 3* view and choose *Continue*.

    e) In the *Organizational Levels* dialog box, enter `TR##` in the *Plant* field and choose *Continue*.

    f) On the *Create Material M-## (Trading goods)* screen, in the *Availability check* screen area the *Availability check* field needs to be mandatory.

    g) Exit the transaction.

    h) Create a material for plant *1000*. The *Availability check* field should be still optional.

    •

2. Test your settings. Extend the material master record by adding the *MRP 3* view for your new plant ->TR##. Enter the value `01` (= daily requirement) in the *Availability check* field.

    a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately* (`MM01`).

    b) On the *Create Material (Initial Screen)*, enter `200000###` in the *Material* field and choose the *Select View(s)* pushbutton.

    c) In the *Select View(s)* dialog box, enter *MRP 3* from *View* and choose *Continue*.

    d) In the *Organizational Levels* dialog box, enter `TR##` in the *Plant* field and choose *Continue*.

    e) On the *Create Material 200000### (Material Type ##)* screen, in the *MRP 3* tab, enter `01` in the *Availability check* field and save your entry.

    If you are asked to enter an *MRP type* in the *MRP 1* view when you save it, use *MRP type* `ND`.

3. Optional:

How can you prevent the unnecessary creation of storage and sales data for the materials in plant *1400*?

Is it possible to make this setting dependent on the procurement type or material type?

You can prevent the maintenance of storage and sales data for the materials in plant *1400* by deleting these maintenance statuses for plant *1400*.

a) In *Customizing*, go to *Logistics - General → Material Master → Field Selection → Define Plant-Specific Field Selection* and define a plant-specific screen selection.

b) Remove letters *L* and *V* in the *Maintenance Status* field for plant *1400.*

However, this setting depends neither on the procurement type nor on the material type.

LESSON SUMMARY
You should now be able to:

- Define field references for material master records

📖 Learning Assessment

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1. Which of the following options do you have for updating administrative data in material master records?

   Choose the correct answers.

   ☐ **A** Plant-dependent

   ☐ **B** Status-dependent

   ☐ **C** At table level

   ☐ **D** At storage-location level

2. On which organizational level do you define posting periods for materials management?

   Choose the correct answer.

   ☐ **A** Company code

   ☐ **B** Plant

   ☐ **C** Storage location

   ☐ **D** Business area

3. Which of the following belongs to the settings for key fields in material master?

   Choose the correct answers.

   ☐ **A** Define material groups

   ☐ **B** Define number ranges

   ☐ **C** Define attributes for system messages

   ☐ **D** Define material statuses

4. Which of the following options can you see in the Material Management View on company codes?

   Choose the correct answers.

   ☐ **A** Start date of the current fiscal year

   ☐ **B** Which posting period will be next

   ☐ **C** Which was the previous posting period

   ☐ **D** If postings to the previous posting period are allowed

5. What can you define in the attributes for material types?

   Choose the correct answers.

   ☐ **A** Field reference

   ☐ **B** Field sequence

   ☐ **C** Screen reference

   ☐ **D** Screen sequence

6. Which procurement type is proposed in material master records if the relevant material type allows internal and external procurement?

   Choose the correct answer.

   ☐ **A** None

   ☐ **B** X

   ☐ **C** E

   ☐ **D** F

7. Which maintenance statuses must a valuated material at least have to be procured in a purchase order?

   Choose the correct answer.

   ☐ **A** K (Basic Data), E (Purchasing) and B (Accounting)

   ☐ **B** E (Purchasing) and B (Accounting)

   ☐ **C** E (Purchasing) and D (MRP)

   ☐ **D** E (Purchasing) and G (Costing)

8. What is the maximum length for material numbers in an SAP system?

   Choose the correct answer.

   ☐ **A** 8

   ☐ **B** 10

   ☐ **C** 15

   ☐ **D** 18

9. How many field selection groups can you use in an SAP system?

   Choose the correct answer.

   ☐ **A** 175

   ☐ **B** 220

   ☐ **C** 240

   ☐ **D** 500

10. For which influencing factors can you define field references?

    Choose the correct answers.

    ☐ **A** Company codes

    ☐ **B** Plants

    ☐ **C** Material groups

    ☐ **D** Material types

11. Which field attribute has the highest priority?

    Choose the correct answer.

    ☐ **A** Hide

    ☐ **B** Suppress

    ☐ **C** Mandatory field

    ☐ **D** Optional field

12. On which of the following levels can you define lock-relevant fields?

    Choose the correct answer.

    ☐ **A** Client

    ☐ **B** Material

    ☐ **C** User

    ☐ **D** Plan

13. Suppression of fields has the highest priority.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

14. You can define lock-relevant fields for the material master record. You can use this function only in material master records for industry, not in master record of SAP Retail.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

15. If you flag a field as lock-relevant and changes are already planned in this field of a locked material master record, the system saves these changes.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

Learning Assessment - Answers

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1. Which of the following options do you have for updating administrative data in material master records?

   Choose the correct answers.

   ☐ **A** Plant-dependent

   ☒ **B** Status-dependent

   ☒ **C** At table level

   ☐ **D** At storage-location level

2. On which organizational level do you define posting periods for materials management?

   Choose the correct answer.

   ☒ **A** Company code

   ☐ **B** Plant

   ☐ **C** Storage location

   ☐ **D** Business area

3. Which of the following belongs to the settings for key fields in material master?

   Choose the correct answers.

   ☒ **A** Define material groups

   ☐ **B** Define number ranges

   ☐ **C** Define attributes for system messages

   ☒ **D** Define material statuses

4. Which of the following options can you see in the Material Management View on company codes?

    Choose the correct answers.

    ☐ **A** Start date of the current fiscal year

    ☐ **B** Which posting period will be next

    ☒ **C** Which was the previous posting period

    ☒ **D** If postings to the previous posting period are allowed

5. What can you define in the attributes for material types?

    Choose the correct answers.

    ☒ **A** Field reference

    ☐ **B** Field sequence

    ☒ **C** Screen reference

    ☐ **D** Screen sequence

6. Which procurement type is proposed in material master records if the relevant material type allows internal and external procurement?

    Choose the correct answer.

    ☐ **A** None

    ☒ **B** X

    ☐ **C** E

    ☐ **D** F

7. Which maintenance statuses must a valuated material at least have to be procured in a purchase order?

    Choose the correct answer.

    ☐ **A** K (Basic Data), E (Purchasing) and B (Accounting)

    ☒ **B** E (Purchasing) and B (Accounting)

    ☐ **C** E (Purchasing) and D (MRP)

    ☐ **D** E (Purchasing) and G (Costing)

8. What is the maximum length for material numbers in an SAP system?

   Choose the correct answer.

   ☐ **A** 8

   ☐ **B** 10

   ☐ **C** 15

   ☒ **D** 18

9. How many field selection groups can you use in an SAP system?

   Choose the correct answer.

   ☐ **A** 175

   ☐ **B** 220

   ☒ **C** 240

   ☐ **D** 500

10. For which influencing factors can you define field references?

    Choose the correct answers.

    ☐ **A** Company codes

    ☒ **B** Plants

    ☐ **C** Material groups

    ☒ **D** Material types

11. Which field attribute has the highest priority?

    Choose the correct answer.

    ☐ **A** Hide

    ☒ **B** Suppress

    ☐ **C** Mandatory field

    ☐ **D** Optional field

12. On which of the following levels can you define lock-relevant fields?

    Choose the correct answer.

    [X] **A** Client

    [ ] **B** Material

    [ ] **C** User

    [ ] **D** Plan

13. Suppression of fields has the highest priority.

    Determine whether this statement is true or false.

    [X] True

    [ ] False

14. You can define lock-relevant fields for the material master record. You can use this function only in material master records for industry, not in master record of SAP Retail.

    Determine whether this statement is true or false.

    [X] True

    [ ] False

15. If you flag a field as lock-relevant and changes are already planned in this field of a locked material master record, the system saves these changes.

    Determine whether this statement is true or false.

    [ ] True

    [X] False

Valuation and Account Assignment

UNIT OBJECTIVES

- Introduce automatic account determination
- Determine the relevance of company codes and valuation areas

- Consider the relevance of material master records and material types for automatic account determination

- Set up account determination for specific transactions

- Use the account grouping code

- Adjust account determination for special cases

- Adjust the settings for split valuation

Introducing Automatic Account Determination

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LESSON OVERVIEW

This lesson covers the process of automatic account determination in materials management (MM). In addition, this lesson discusses the significance of automatic account determination and its influencing factors with examples.

> Draw upon the experience and extensive knowledge of the participants from preceding courses when dealing with the inventory management and invoice verification transactions. Have participants quote and discuss examples of transactions relevant to accounting and the associated postings.

Business Example

You need to gain an overview of the options for automatic account determination in MM processes. For this reason, you require the following knowledge:

- An understanding of factors influencing automatic account determination
- An understanding of simple accounting transactions from inventory management and invoice verification

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Introduce automatic account determination

Automatic Account Determination

Different transactions in inventory management and invoice verification are relevant to accounting. The system records these transactions into an accounting document that contains the postings to the Finance general ledger (G/L) accounts. The program should automatically determine the G/L accounts to which you make the postings in such a document.

For example, when you issue raw material for a production order, the system makes postings to stock accounts (under credits) and consumption accounts (under debits).

Automatic account determination is a procedure applied to accounting-relevant transactions and is used to identify the G/L accounts to which it makes postings without any user intervention. You must enter these accounts in a special table in Customizing for the transactions in inventory management and invoice verification.

Sample Automatic Postings

Business Process:		Accounting doc.:			
① GR for PO in warehouse		**Item**	**PK**	**Account**	**Amount**
		1	89	300 000	100.00
		2	96	191 100	120.00-
		3	83	231 000	20.00
② IR for warehouse order		**Item**	**PK**	**Account**	**Amount**
		1	31	Vendor	121.00-
		2	86	191 100	120.00
		3	93	281 000	10.00-
		4	40	154 000	11.00

Figure 35: Automatic Postings During Procurement
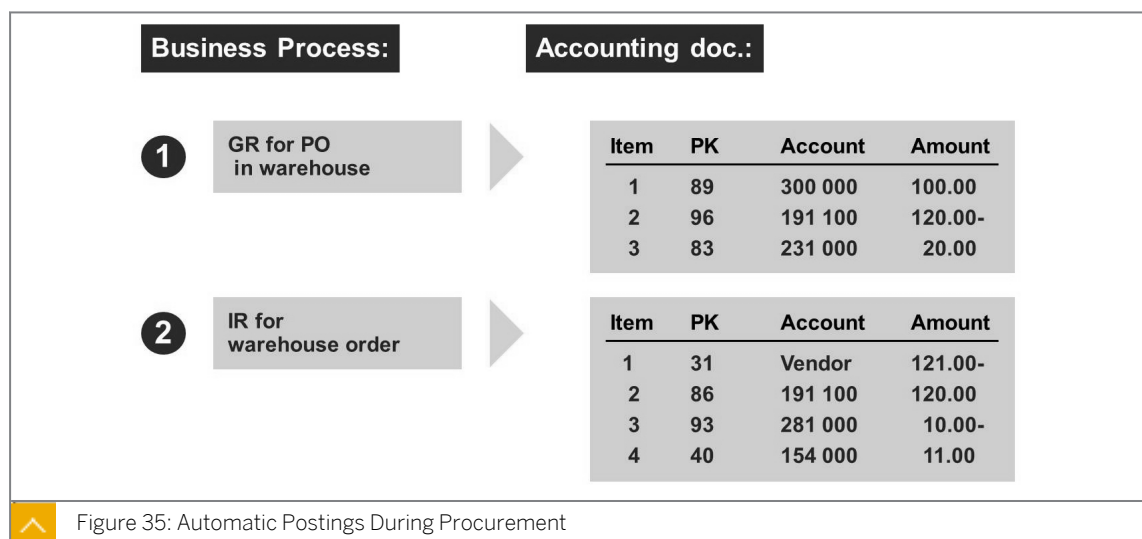
The figure describes the steps of the procurement process.

The procurement process is based on the following business processes:

1. An order was created with a quantity of 10 pieces at a price of EUR 12 per piece. The material is valued at a standard price of EUR 10 per piece.

2. In step 1, the system posts the goods receipt (GR).

   As a result of valuation using the standard price, the received quantity is posted to stock account 300000 with a value of EUR 100 (10 pieces x EUR 10 standard price).

   An offsetting entry with a value of EUR 120 is made to the GR or invoice receipt (IR) clearing account 191100 because an invoice amount of EUR 120 (10 pieces x EUR 12 purchase order (PO) price) is expected.

   The EUR 20 difference between the order and valuation price is posted to a price difference account (231000). The price difference is booked as an expenditure because the order price is higher than the valuation price.

3. In step 2, the system posts the IR for the PO.

   The invoice is for 10 pieces at EUR 11 = EUR 110, plus 10 % Value Added Tax (VAT), which is EUR 11 – a total of EUR 121.

   This amount is posted to the vendor account (corresponds to the reconciliation account from the master data record).

   The GR/IR clearing account 191100 has to be credited with the value from the GR (= EUR 120) because the full quantity that was delivered is calculated.

   The invoice value (EUR 110) is lower than the GR value (EUR 120). Observe the price difference. This time, the actual value is lower than the expected value and the difference is posted to price difference account 281000 as revenue.

   The system posts the tax amount to account 154000 as input tax.

   Posting Keys (PK) defines whether a posting is a credit or a debit and which type of account it is posted to (debtor or vendor).

Posting Transactions

Transaction or Type of Account Assignment	GR	IR	G/L Account	Origin
Inventory posting	X	X	300 000	Automatic account determination
GR/IR clearing	X	X	191 000	Automatic account determination
Price difference	X	X	231 000	Automatic account determination
Creditor/ reconciliation account		X	160 000	Account in vendor master record
Input tax		X	154 000	Automatic account determination

The system automatically determines the relevant G/L accounts for every transaction in MM.

A transaction in MM, for example, GR for PO, consists of a number of accounting operations, such as stock posting (transaction key `BSX`) and GR/IR clearing posting (transaction key `WRX`).

Usage of Automatic Account Determination
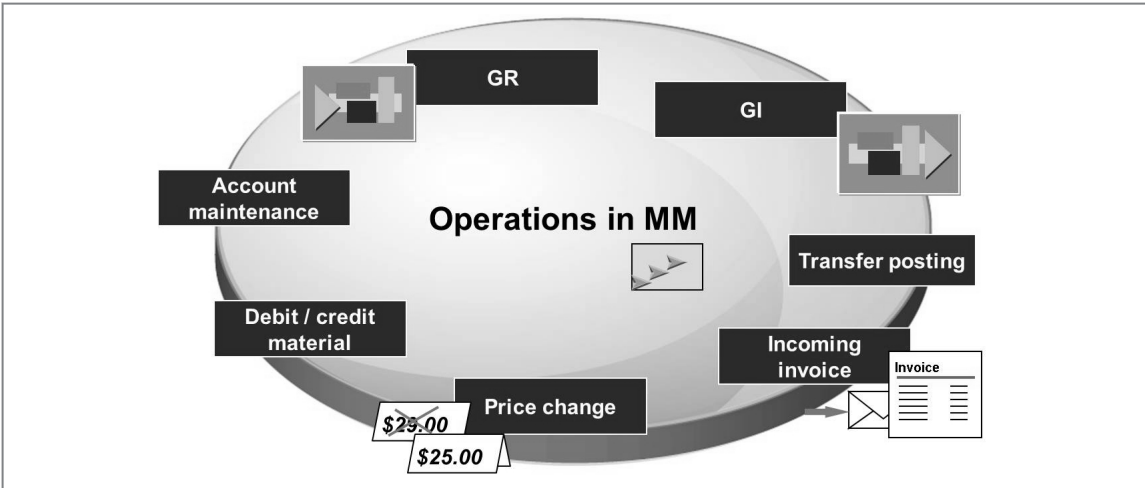
Figure 36: Automatic Account Determination in MM

This figure shows the typical G/L postings that can occur in the event of a GR into the warehouse or stores or an IR for a PO item of the *standard* category without an account assignment.

The MM transactions for which you can set up automatic postings occur in the areas of inventory management, invoice verification, and material valuation. MM transactions also include goods movements triggered by production or sales operations.

Influencing Factors for Account Determination

In Customizing for Financial Accounting (FI), you can specify the chart of accounts for each company code. For example, the chart of accounts specifies the G/L accounts that are to be used for stock and expense postings. You must set up account determination for each chart of accounts separately because the meaning of individual G/L accounts depends on the chart of accounts.

In addition, set up automatic postings as a function of the valuation area for which the transaction is recorded.

Automatic Postings Based on Organizational Level

Figure 37: Example - Influencing Factor Organizational Level for Automatic Postings
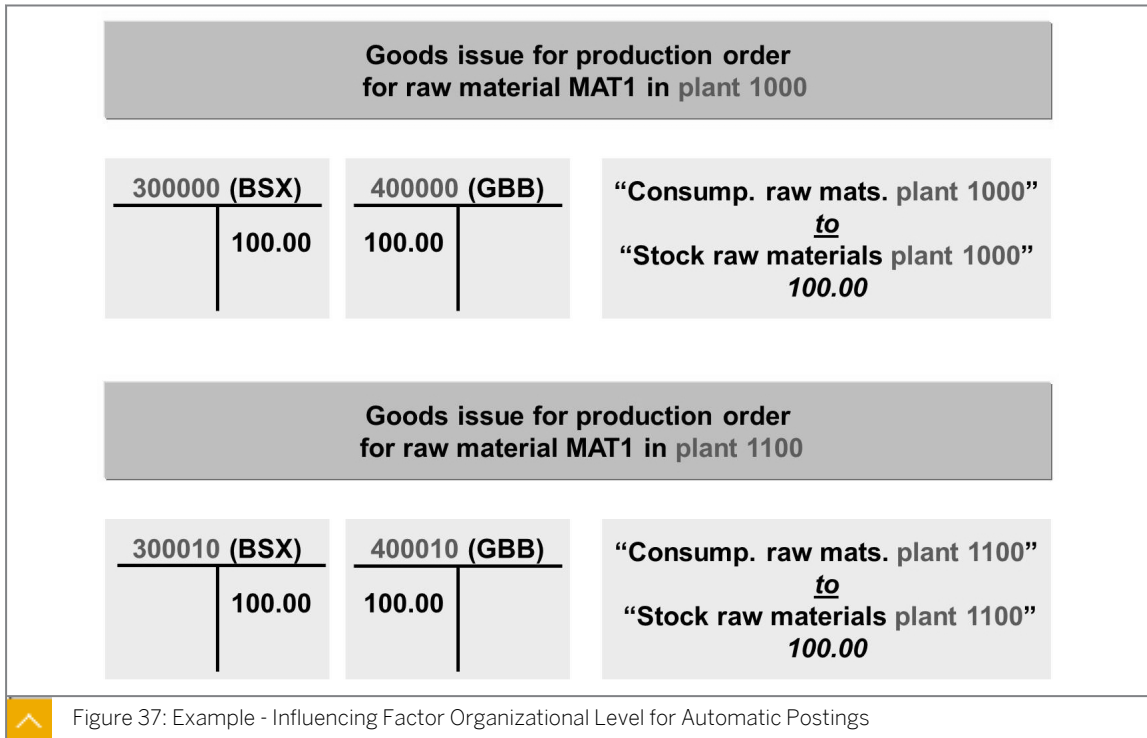
In the example displayed in the figure, the valuation level is a plant. If the valuation area is a plant, assign plant-based postings to only specific G/L accounts. For example, using a plant-dependent account number assignment, you can post transactions or events related to the production process in one plant to different G/L accounts and cost elements than the transactions or events related to the same production process in another plant. The figure shows that the system can make postings to different stock and expense accounts for the same material and the same transaction or event (in plant 1000 in one case and plant 1100 in another case). A possible reason for these postings might be that one plant produces a material and the other plant consumes this material as a component. Use different stock accounts because you cannot use plant-specific material types for a material.

Automatic Postings Based on Material or Material Type

Goods issue for production order for raw material MAT1 in plant 1000

300000 (BSX)	400000 (GBB)	"Consumption raw materials_1 plant 1000" _to_ "Stock raw materials_1 plant 1000" 100.00
100.00	100.00	

Goods issue for production order for raw material MAT2 in plant 1000

300010 (BSX)	400010 (GBB)	"Consumption raw materials_2 plant 1000" _to_ "Stock raw materials_2 plant 1000" 100.00
100.00	100.00	

Goods issue for production order for spare part MAT3 in plant 1000

304000 (BSX)	404000 (GBB)	"Consumption spare parts plant 1000" _to_ "Stock spare parts plant 1000" 100.00
100.00	100.00	

Figure 38: Example - Influencing Factor Material or Material Type for Automatic Postings

You can also set up automatic postings as a function of the material and the relevant material type for which a transaction is recorded. You analyze the various material types in your company for the stock postings. Depending on the procurement type, you may need one or more stock accounts to differentiate between the materials produced in-house and procured externally.

The figure shows an example where you can make automatic postings to different accounts for the same transaction in the same plant, depending on the material type and material.

You can also set up automatic postings, depending on the specific transaction or event that leads to an update in the accounting system. In an SAP system, the receipt value might be posted to a stock account in certain transactions and to an expense account in other transactions.

Automatic Postings Based on MM Transactions/Events

GR (into warehouse) for standard PO
for raw material MAT1 in plant 1000

300000 (BSX)	191100 (WRX)	"Stock raw material_1 plant 1000"
100.00	100.00	*to*
		"GR/IR clearing"
		100.00

Price change
for raw material MAT1 in plant 1000

300000 (BSX)	282500 (UMB)	"Stock raw material_1 plant 1000"
100.00	100.00	*to*
		"Gain from revaluation"
		100.00

Figure 39: Example - Influencing Factor MM Transactions/Events for Automatic Postings

The figure shows the postings for two different business processes.

The upper block shows GR postings into the warehouse for a PO item without account assignment and with the item category *standard*.

The lower block shows the posting for a change in the valuation price. If you change the price (revaluation), the system generates an accounting document (if that stock exists).

> **Hint:**
> To change the valuation price of a material by using a special transaction, choose
> *Logistics → Materials Management → Valuation → Change in Material Price → Change Material Prices* (`MR21`) on the *SAP Easy Access* screen.

Automatic Postings Based on MM Transaction Events

Figure 40: Example - Influencing Factor MM Transaction Event for Automatic Postings

When you record goods movements in an SAP system, post the movements to specific business process by defining their movement type. For example, you can post an issue of material for a production order with movement type 261. In contrast to this consumption posting, you can post inventory differences to a special expense account.

To show the expenditure for production and inventory differences separately in Financial Accounting and Cost Accounting, set up and assign different accounts to the corresponding types of goods withdrawal postings.

Procedure for G/L Account Determination

When entering a goods movement, you do not need to enter a G/L account because the SAP system finds it automatically.

The SAP system determines the G/L account based on the following data:
- Organizational level
- Material
- Business transaction

Organizational Level

You directly or indirectly specify the plant(s) for the goods movement.

The system determines the following details from this specification:
- The company code to which the plant belongs and the chart of accounts for this company code
- The valuation area to which the plant is assigned and a key that can be used for differentiated account number assignment per valuation area

Material

You specify directly or indirectly the material for which the goods movement is to be entered.

The system determines the following details from this specification:
- The material type of the material and the indicators showing whether quantity-based and/or value-based updates have been defined for it

- The valuation class of the material, which you enter in the accounting data of the material master record and which is responsible for differentiated account number assignment, depending on the material and material type

Business Transaction

In inventory management, specify a movement type (directly or indirectly) by which the goods movement is to be posted. The movement type allows you to differentiate between goods movements (for example, GR, goods issue, and transfer posting). The movement type symbolizes the business transaction or event represented by the goods movement.

Among other things, the system determines the following details from this data:
- The specifications for posting to FI accounts

- The specifications for updating stock and value fields in the material master record

Selecting a process in invoice verification (invoice, debit memo, subsequent debit, or subsequent credit) controls which postings are required for that process. The system also checks whether the quantity that was calculated or credited by the process is still in stock (stock coverage).

During IR, for a material that is valuated using the moving average price, the system may post to a price difference account if the invoice price differs from the order price and the calculated or credited quantity is no longer or only partly in stock.

Discuss Statements for Automatic Account Determination

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Business Example

As a member of the project team, you are responsible for the settings for automatic account determination. Some members of your team are new to this field. Explain the postings that are made for a GR against a PO and goods movements.

1. An accounting document is generated for every GR posting referencing a PO.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

2. In the case of goods receipts into the warehouse, or stores, against a standard PO and a stock transport order (for the same material and in the same plant), the system always makes postings to the same accounts.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

3. The system posts each receipt against a PO to a stock account.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

4. Does the movement type with which the system records a GR have any influence on the G/L accounts of the GR posting?

📖 Discuss Statements for Automatic Account Determination

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Business Example

As a member of the project team, you are responsible for the settings for automatic account determination. Some members of your team are new to this field. Explain the postings that are made for a GR against a PO and goods movements.

1. An accounting document is generated for every GR posting referencing a PO.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   For example, the system does not generate an accounting document for a GR entered against a PO item of the category consignment. This is because in such a case the material remains the property of the vendor even after it has entered your warehouse or stores and does not become part of your valuated stock. An accounting document does not also have to be created for a GR against a PO item with account assignment because non-valuated goods receipts can exist for consumable materials. An accounting document is not generated for GR against a stock transport order.

2. In the case of goods receipts into the warehouse, or stores, against a standard PO and a stock transport order (for the same material and in the same plant), the system always makes postings to the same accounts.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   The system posts the receipt to the same stock account in both cases. However, you always expect an invoice for delivery of goods from a vendor (triggered by a standard PO). Therefore, when the system posts a GR against a standard PO, it usually makes a posting to the GR/IR clearing account. In contrast, there is no goods invoice for a stock transport order and the system makes no posting to a GR/IR clearing account.

3. The system posts each receipt against a PO to a stock account.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   In the case of a PO item with account assignment, the system posts the GR value to an expense account or asset account. The system does not make any posting in case material is moved to GR blocked stock by using movement type 103.

4. Does the movement type with which the system records a GR have any influence on the G/L accounts of the GR posting?

   a) Yes, because the system makes postings to different accounts, depending on the transaction involved – For example, initial entry of stock balances (movement type 561) or GR for production order (movement type 101).

LESSON SUMMARY
You should now be able to:

- Introduce automatic account determination

Determining the Relevance of Company Codes and Valuation Areas

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LESSON OVERVIEW

This lesson outlines how automatic account determination is dependent on company codes and valuation areas.

> Review the significance of the valuation level and how it is defined. Show how to assign the chart of accounts to a company code. Discuss the possibilities of using the same accounts in your new plant, such as plant 1000, or assigning separate accounts.

Business Example

You have decided that the postings made in your new plant are to be made to different general ledger (G/L) accounts than the postings in your existing plants. You are to make the necessary preparations to facilitate the postings. For this reason, you require the following knowledge:

- An understanding of the chart of accounts used in your company code

- An understanding of conditions enabling a plant-specific assignment of G/L accounts

- An understanding of the significance of the valuation grouping code

- An understanding of account determination for new plants

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Determine the relevance of company codes and valuation areas

Levels for Account Determination

Chart of accounts			INT	
Company code		1000		2000
Valuation area		1000	1200	2000
Plant		1000	1200	2000
Valuation type				
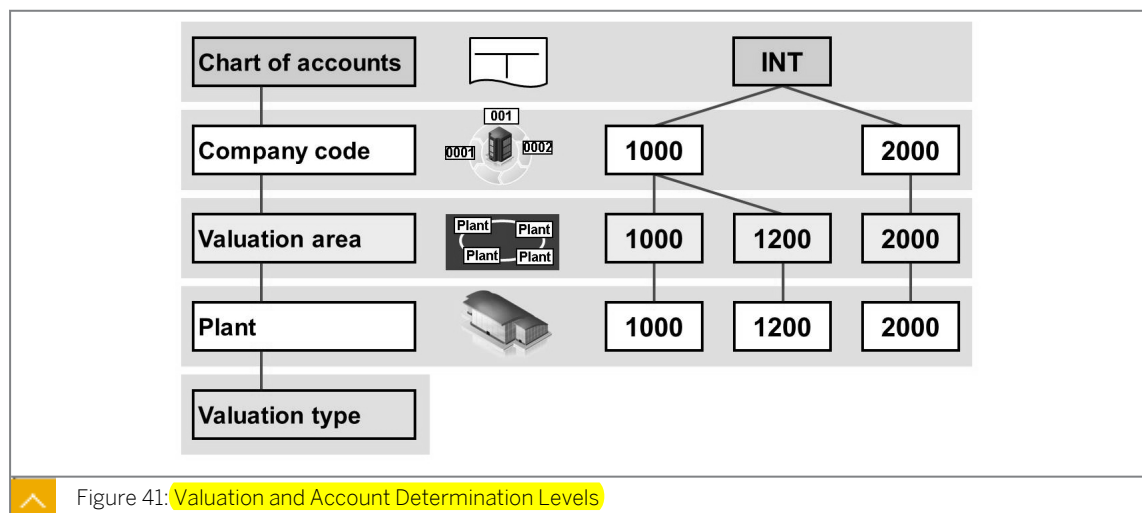
Figure 41: Valuation and Account Determination Levels

You can define the G/L accounts to which the system makes postings for accounting-relevant transactions in an SAP system.

The following factors influence the choice of G/L:

- Chart of accounts

  Set up the account determination process separately for each chart of accounts.

- Valuation area

  Make account determination for transactions (such as consumption postings) dependent on the valuation area.

- Valuation type

  If you use split valuation for individual materials, you can also set up account determination, depending on the movement type.

The assignment of G/L account numbers (account determination) always depends on the chart of accounts. Assign the chart of accounts to a company code in Customizing for Financial Accounting (FI).

G/L account number assignment can be defined as a function of the valuation area. When you enter the Materials Management (MM) business processes, the valuation area (plant or company code) is known in each process. In Customizing, choose whether the valuation area is to be the same as the company code or the plant. This setting must be made before materials are created and MM inventory management transactions are entered.

If a material is subject to split valuation, you can valuate various stocks of the same material differently and manage them in different accounts.

Assignment of G/L Account Numbers for Automatic Account Determination

Client	CAcct	Transaction	VG	AG	VClass	G/L acc. DEBIT	G/L acc. CREDIT
400	INT	BSX	0001	---	3000	300 000	300 000
400	INT	WRX	---	---	---	191 100	191 100
400	INT	PRD	---	PRA	3000	231 000	281 000
400	INT	GBB	0001	VBR	3000	400 000	400 000

Depending on the different influencing factors (the assigned chart of accounts, the business transaction, the plant in which the transaction is posted, and possibly the material itself), the program determines which G/L account postings have to be made.

For every possible combination of the factors of influence (chart of accounts, business transaction, plant, and possibly the material itself), a G / L account must be assigned for DEBIT and CREDIT postings.

Figure 42: Assignment of G/L Account Numbers for Automatic Account Determination

Note:
The Implementation Guide documentation contains a detailed description of automatic account determination under *IMG → Materials Management → Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

Chart of Accounts

Client	CAcct	Transaction	VG	AG	VClass	G/L acc. DEBIT	G/L acc. CREDIT
400	INT	BSX	0001	---	3000	300 000	300 000
400	INT	WRX	---	---	---	191 100	191 100
400	CAFR	BSX	FR01	---	3000	311 000	311 000
400	CAFR	WRX	---	---	---	408 120	408 120

Figure 43: Chart of Accounts

The chart of accounts is a structure for recording values and value flows for correct accounting practices. The chart is a list of all G/L accounts that are jointly used by one or more company codes. The chart also specifies the number and name of each G/L account and information controlling the function of the account and its creation within the company code.

The chart of accounts forms part of the key in the table for automatic account determination. Assign the individual G/L accounts for automatic account determination separately for each chart of accounts because the meaning of a G/L account may differ from one chart to another chart.

Assign a chart of accounts to each company code. This chart becomes the operative chart of accounts used by both Financial Accounting and Costing.

The items of a chart of accounts can be used simultaneously to create a revenue and expenditure account in Financial Accounting and as a cost or revenue element in Cost and Revenue Accounting.

The following charts of accounts may exist in addition to the operative chart of accounts:

- A country-specific chart of accounts that considers the legal requirements of a country

- A group chart of accounts that applies to an entire corporate group and is based on special consolidation aspects

Valuation Area

A valuation area is an organizational unit within Logistics that subdivides a company for uniform and complete valuation of material stocks.

In an SAP system, you specify the level at which your stocks of materials are to be valuated for your company.

Stocks of materials can be valuated at the company code and plant levels.

If you have selected a plant as the valuation level, each plant represents a valuation area and the key for the area is identical to the key for the plant.

Valuation Grouping Code

Client	CAcct	Transaction	VG	AG	VClass	G/L acc. DEBIT	G/L acc. CREDIT
400	INT	BSX	**0001**	---	3000	300 000	300 000
400	INT	GBB	**0001**	VBR	3000	400 000	400 000
400	INT	BSX	**0001**	---	3012	300 120	300 120
400	INT	GBB	**0001**	VBR	3012	400 120	400 120

Figure 44: Valuation Area

You can assign G/L accounts for automatic account determination (indirectly), depending on the valuation area. To minimize the effort involved in account determination, group the valuation areas with the same account number assignment. The grouping is done using a valuation grouping code. Use the valuation grouping code to assign G/L account numbers.

A valuation grouping code is a tool that enables you to configure automatic account determination with minimum effort. Within a chart of accounts, valuation areas that are to be treated equally in terms of account assignment are assigned to the same valuation grouping code.

Use valuation grouping codes either for differentiation within a chart of accounts or to correspond exactly to a chart of accounts.

In contrast to a chart of accounts, you can specify that automatic account determination is to be set up independent of the valuation grouping code either generally or only for individual transactions in your company. In the former case, deactivate the valuation grouping code. In the latter case, adjust the rules for individual transactions, as required.

By activating or deactivating valuation grouping codes, you can enable or disable the dependency of account determination on the valuation area. If the valuation grouping code is activated, a code must be assigned to each valuation area.

Valuation Level – Company Code
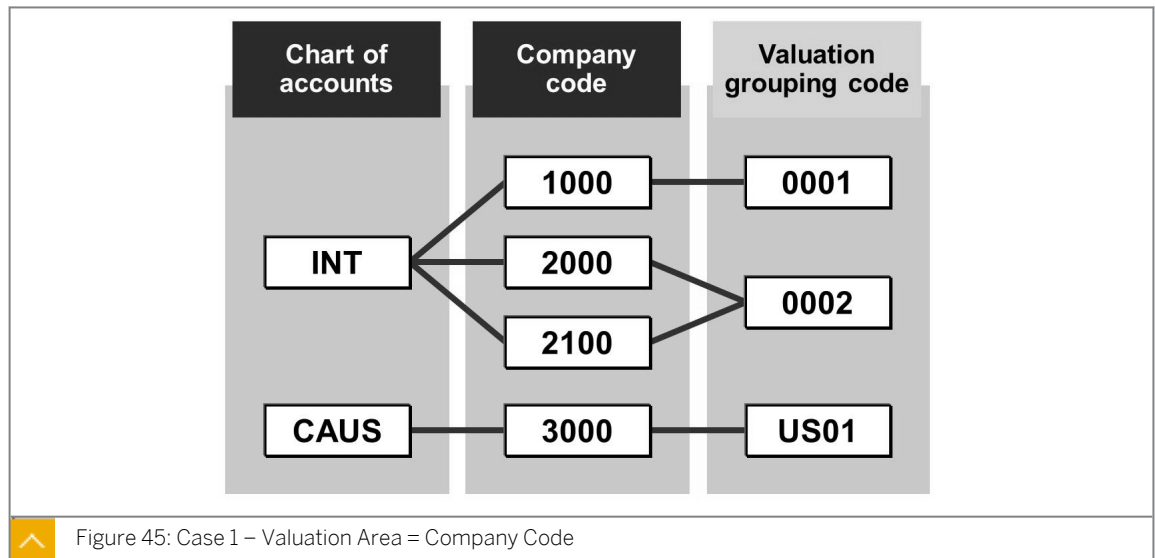
Figure 45: Case 1 – Valuation Area = Company Code

The figure displays a company in which several company codes use the same chart of accounts and one company code works with a different chart of accounts. In such a situation, automatic account determination must be set up separately for each chart of accounts. The valuation areas (the level at which material valuation takes place) are the company codes. If you fix the valuation area at company code level, the assignment of G/L accounts is uniform across all plants (it cannot be plant-specific).

If the valuation area is at company code level, the following options are available:

- Deactivate the valuation grouping code.

  The system would treat the three company codes (1000, 2000, and 2100) to which you have assigned the same chart of accounts, INT, identically in terms of account assignment.

- Activate the valuation grouping code.

  Assign a valuation grouping code to all company codes (1000, 2000, 2100, and 3000). Assign the same code to the company codes that are assigned to the same chart of accounts, INT, and need to be treated identically in terms of account assignment.

  If you use different valuation grouping codes for the company codes of the same chart of accounts, assign different G/L accounts for the same business processes in the company codes.

Valuation Area - Plant
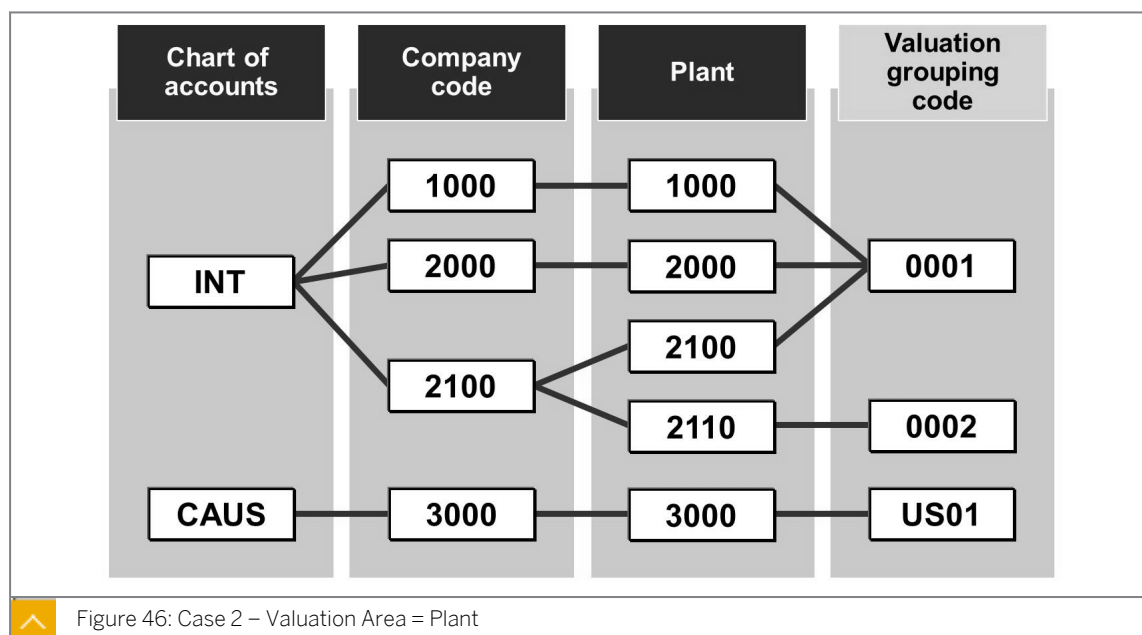
Figure 46: Case 2 – Valuation Area = Plant

The figure displays a company in which several company codes use the same chart of accounts and one company code works with a different chart of accounts. You need to set up automatic account determination separately for each chart of accounts. In this case, the valuation areas (the level at which material valuation takes place) are the plants. If you fix the valuation area at plant level, the assignment of G/L accounts will be plant specific.

If the valuation area is at plant level, the following options are available:

- Deactivate the valuation grouping code.

  The system treats the four plants (1000, 2000, 2100, and 2110) that (indirectly) use the same chart of accounts, INT, identically in terms of account assignment.

- Activate the valuation grouping code.

  Assign a valuation grouping code to all plants (1000, 2000, 2100, 2110, and 3000) of the same chart of accounts, INT, which have to be treated identically in terms of account assignment.

If you use different valuation grouping codes for the plants of the same chart of accounts, assign different G/L accounts for the same business processes in these plants.

Grouping of Valuation Areas

Val. area	CoCode	Company Name	Chrt/Accts	Val.Grpg Code
1000	1000	IDES AG	INT	0001
1100	1000	IDES AG	INT	0001
1200	1000	IDES AG	INT	0001
1300	1000	IDES AG	INT	0001
1400	1000	IDES AG	INT	0001
2000	2000	IDES UK	INT	0001
2010	2000	IDES UK	INT	0001
2200	2200	IDES France	CAFR	FR01
3000	3000	IDES US INC	CAUS	US01
3100	3000	IDES US INC	CAUS	US01
3200	3000	IDES US INC	CAUS	US01
3300	3000	IDES US INC	CAUS	US01
3400	3000	IDES US INC	CAUS	US01
3500	3000	IDES US INC	CAUS	US01

Figure 47: Grouping of Valuation Areas

The figure from the Implementation Guide displays the grouping of valuation areas.

Company codes 1000 and 2000 use the same chart of accounts, INT. Account determination is uniform for all plants with company code 1000 and for plants 2000 and 2010 with company code 2000.

Realization – Example 1

**Goods issue for production order
for raw material MAT1 in plant 1000**

300 000 (BSX)	400 000 (GBB)	"Consump. raw mats. plant 1000"
100.00	100.00	*to*
		"Stock raw materials plant 1000"
		100.00

**Goods issue for production order
for raw material MAT1 in plant 1100**

300 010 (BSX)	400 010 (GBB)	"Consump. raw mats. plant 1100"
100.00	100.00	*to*
		"Stock raw materials plant 1100"
		100.00

Figure 48: Realization – Example 1

The figure shows different G/L accounts for plants 1000 and 1100 even though the business process (GI for production order) and the material are the same. Different G/L accounts are possible if the valuation grouping code is activated and a different valuation grouping code is used for both plants.

Group Valuation Areas

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Business Example

> This exercise can only be carried out if the plant TR## has been created before.

As the person responsible for the logistics of a project, you are also responsible for the account determination settings. You need to ensure that the G/L accounts specified by the accounts department are assigned for the automatic postings, as prescribed.

You need to take into account the organizational structure for automatic postings. Then you need to determine the valuation level, set up valuation control, and group the valuation areas.

Task 1

During the discussion on the replication of organizational structures, the following statements are made. Decide whether they are true or false and give reasons for your answers.

1. The levels of material valuation can be changed in the production system.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

2. To use production planning (component PP), material valuation must be set up at company code level.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

3. Account determination always takes place on a plant-dependent basis.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

4. Only one chart of accounts can be assigned to a company code.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

5. Explain the term valuation grouping code and how such a code is used.

Task 2

Check settings in Customizing.

1. Find out if the valuation level in the training system is set at company code level or plant level.
   What are the consequences of this setting?
   Which valuation area is assigned to plant 1000?

2. Find out which chart of accounts is used in company code 1000.

3. Find out whether the valuation grouping code is active in the training client.
   What are the consequences of this setting?

4. Which valuation grouping code is assigned to valuation area 1000?
   Note this valuation grouping code for valuation area (plant) 1000.

5. Are there any other valuation areas to which this valuation grouping code has been assigned? What is the result?

Task 3

Determine the account determination for the new plant TR##.

1. What do you have to do if, for your new plant TR##, you want to use the same G/L account assignment as for plant 1000?

2. What do you have to do if, for your new plant TR##, you want to use a different G/L account assignment than in plant 1000 for selected business transactions?

3. Set up automatic account determination for your new plant TR##. Set up a different account determination process than the process for plant 1000.
   Assign a new valuation grouping code to your plant TR##. Name the valuation grouping code VG##.

Group Valuation Areas

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Business Example

> This exercise can only be carried out if the plant TR## has been created before.

As the person responsible for the logistics of a project, you are also responsible for the account determination settings. You need to ensure that the G/L accounts specified by the accounts department are assigned for the automatic postings, as prescribed.

You need to take into account the organizational structure for automatic postings. Then you need to determine the valuation level, set up valuation control, and group the valuation areas.

Task 1

During the discussion on the replication of organizational structures, the following statements are made. Decide whether they are true or false and give reasons for your answers.

1. The levels of material valuation can be changed in the production system.

    Determine whether this statement is true or false.

    ☐ True

    ☒ False

    Changing the valuation level may result in inconsistencies. If the valuation level were to be changed, a lot of time and effort will need to be spent on converting all the inventory accounting data and documents.

2. To use production planning (component PP), material valuation must be set up at company code level.

    Determine whether this statement is true or false.

    ☐ True

    ☒ False

    The use of production planning requires the valuation area to be set at plant level. Only then can the program access the accounting data for the material (for example, for the purpose of determining costs with a production order).

3. Account determination always takes place on a plant-dependent basis.

Determine whether this statement is true or false.

☐ True

☒ False

Accounts can be assigned on a plant-dependent basis only if the valuation level is a plant and the valuation grouping code is active and assigned to each plant separately.

4. Only one chart of accounts can be assigned to a company code.

Determine whether this statement is true or false.

☒ True

☐ False

You can assign only one chart of accounts to a company code. You must specify the chart of accounts to be used.

5. Explain the term valuation grouping code and how such a code is used.

a) During the process of automatic account determination, the valuation grouping code facilitates differentiation by valuation area. It allows the grouping and consolidation of valuation areas for the determination of G/L accounts for each business process.

Task 2

Check settings in Customizing.

1. Find out if the valuation level in the training system is set at company code level or plant level.

What are the consequences of this setting?

Which valuation area is assigned to plant 1000?

a) In Customizing, go to *Enterprise Structure → Definition → Logistics - General → Define valuation level*.

The valuation level is defined at plant level and cannot be changed.

Material valuation takes place at plant level, and automatic account determination can be configured on a plant-dependent basis.

If the valuation level is the plant, the key for the valuation area is always identical to the plant key. Valuation area 1000 is assigned to plant 1000.

2. Find out which chart of accounts is used in company code 1000.

a) In Customizing, go to *Financial Accounting (New) → Financial Accounting Global Settings (New) → Global Parameters for Company Code → Enter Global Parameters*.

b) Choose company code *1000* and then, choose *Details*.

Company code *1000* uses chart of accounts *INT*.

3. Find out whether the valuation grouping code is active in the training client.

   What are the consequences of this setting?

   a) In Customizing, go to *Materials Management → Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Define Valuation Control*.

   The valuation grouping code is active, which means that you must assign a valuation grouping code to each valuation area, that is, to every plant in the training client.

4. Which valuation grouping code is assigned to valuation area 1000?

   Note this valuation grouping code for valuation area (plant) 1000.

   a) In Customizing, go to *Materials Management → Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Group Together Valuation Areas*.

   Valuation grouping code *0001* is assigned to valuation area *1000*.

5. Are there any other valuation areas to which this valuation grouping code has been assigned? What is the result?

   a) Yes, for example, valuation areas (plants) 1100, 1200, and 1300. The same account number assignments apply to these valuation areas (plants) as to plant 1000.

Task 3

Determine the account determination for the new plant TR##.

1. What do you have to do if, for your new plant TR##, you want to use the same G/L account assignment as for plant 1000?

   a) You have to assign valuation grouping code 0001 to plant TR##.

2. What do you have to do if, for your new plant TR##, you want to use a different G/L account assignment than in plant 1000 for selected business transactions?

   a) A different valuation grouping code has to be assigned to plant TR##.

3. Set up automatic account determination for your new plant TR##. Set up a different account determination process than the process for plant 1000.

   Assign a new valuation grouping code to your plant TR##. Name the valuation grouping code VG##.

   a) In Customizing, go to *Materials Management → Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Group Together Valuation Areas*.

   b) Enter `VG##` as the valuation grouping code for plant *TR##*.

LESSON SUMMARY
You should now be able to:

- Determine the relevance of company codes and valuation areas

Considering the Relevance of Material Master Records and Material Types

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LESSON OVERVIEW

This lesson explains how the automatic account determination process depends on the material type and the material master record.

> Show the Customizing settings on the basis of your new material type.

Business Example

You are investigating whether it is possible to use a different account determination process for certain materials or material types. For this reason, you require the following knowledge:

- An understanding of the relationship between the material master record and the account determination process

- An understanding of the account determination process when defining new material types

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Consider the relevance of material master records and material types for automatic account determination

Material Type and Account Determination

You can define automatic account determination on a material-dependent or material type dependent basis.

If the company has two material types, for example, raw materials and trading goods, you can post each material type to different stock accounts at the time of goods receipt. Even if the material type is the same, the posting can be made to different stock accounts, based on whether the materials are manufactured or purchased.

Grouping of Materials
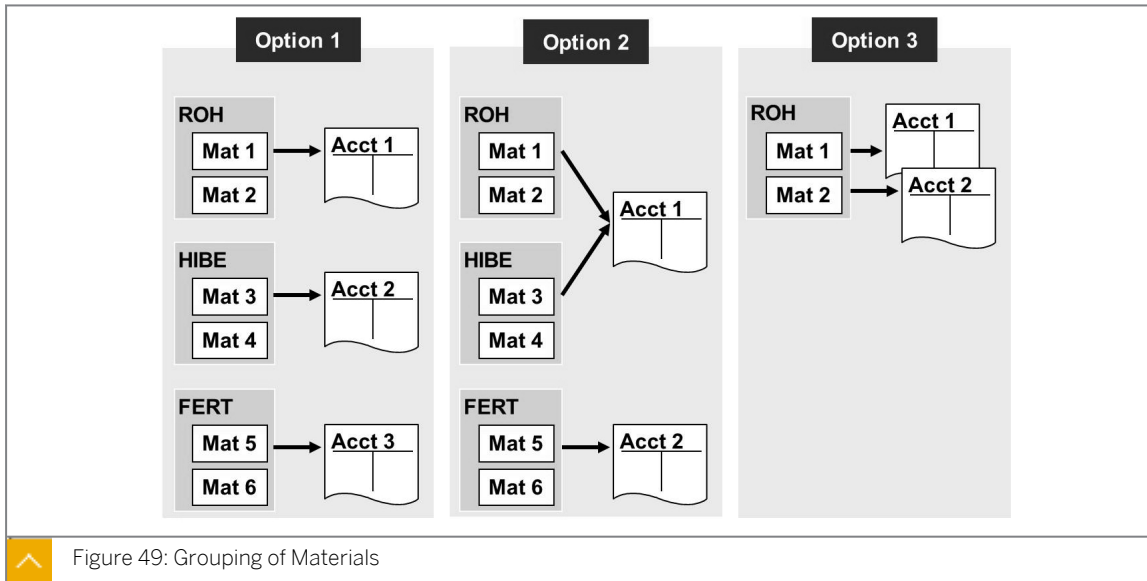
Figure 49: Grouping of Materials

The figure displays variants of the relationships between material types and the account determination process.

Set up a uniform general ledger (G/L) account determination for all materials of a certain type or even for several material types. You can also specify that different G/L accounts are to be determined for different materials of a certain material type. Alternatively, you can group several material types together and define different G/L accounts for different materials within this group.

Valuation Class

Client	CAcct	Transaction	VG	AG	VClass	G/L acc. DEBIT	G/L acc. CREDIT
400	INT	BSX	0001	---	3000	300 000	300 000
400	INT	GBB	0001	VBR	3000	400 000	400 000
400	INT	BSX	0001	---	7900	790 000	790 000
400	INT	GBB	0001	VBR	7900	890 000	890 000

Figure 50: Material/Material Type

The system uses a valuation class to determine account assignment based on the material. The valuation class is a key that the system uses to group together materials with the same account determination.

The valuation class is entered in the material.

Assign the G/L accounts to the valuation classes after taking various influencing factors into consideration. To post a transaction to different accounts depending on the valuation class, define that the account determination process for this transaction is dependent on the valuation class.

Material Type and Valuation Class

Figure 51: Material Type and Valuation Class
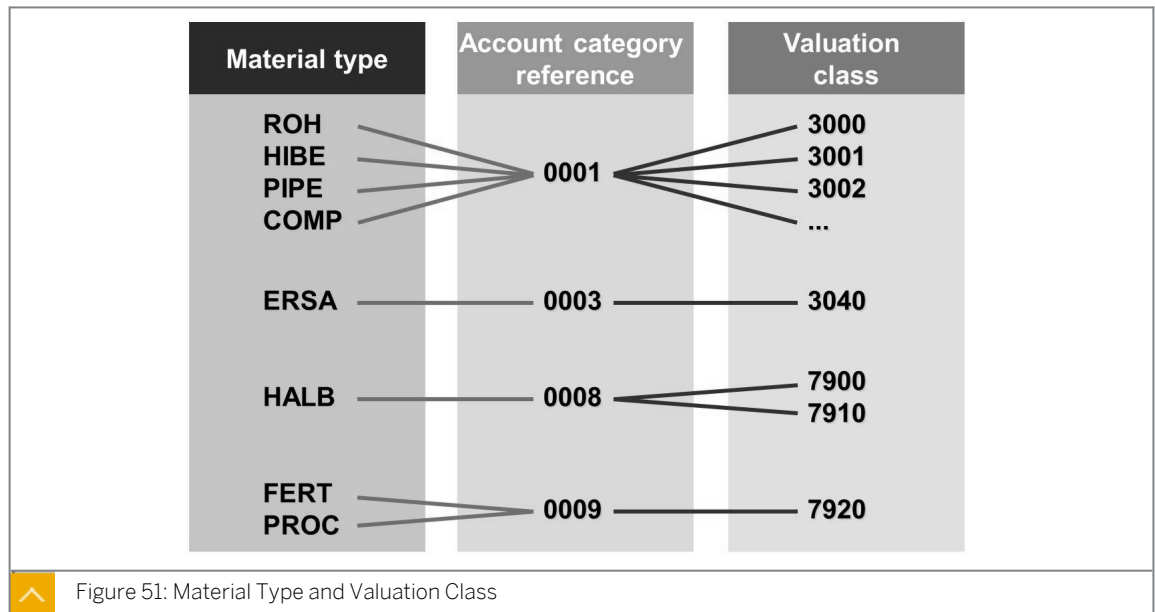
The permissible valuation classes depend on the material type. The system allows several valuation classes for a certain material type.

Conversely, the system allows several material types for a certain valuation class.

You can establish the relationship between valuation classes and material types with the aid of the account category reference.

This reference is a grouping of one or more valuation classes. When the valuation class in the accounting data of the material master record is entered, the system uses the reference assigned to its material type to determine whether the valuation class is valid.

The system assigns this reference to material types. The system can assign only one account category reference to a material type.

The reference is the grouping term for account determination depending on the material type.

You can assign several valuation classes to an account category reference.

It is mandatory to assign each material type for which quantity-based and value-based Inventory Management has been defined, to an account category reference.

When maintaining the accounting data for a material of this material type, choose one of the valuation classes that the system has defined for the relevant account category reference. The system then carries out G/L account determination for this material according to the settings for this valuation class.

If the material is subject to split valuation, the system uses the valuation class of the valuation type(s) for account determination.

Grouping of Valuation Classes

ValCl	Description	Acct cat. ref.	Description
1210	Low-value assets RU	0002	Ref. for operating supplies
3000	Raw materials 1	0001	Reference for raw materials
3001	Raw materials 2	0001	Reference for raw materials
3002	Raw materials 3	0001	Reference for raw materials
3003	Raw materials 4	0001	Reference for raw materials
3030	Operating supplies	0002	Ref. for operating supplies
3040	Spare parts	0003	Reference for spare parts
3050	(Returnable) packaging	0004	Reference for packaging
3100	Trading goods	0005	Reference for trading goods
3200	Services	0006	Reference for services
3300	Non-valuated material	0007	Ref. for non-valuated material
7900	Semifinished products	0008	Ref. for semifinished products
7910	Semi-finished (external)	0008	Ref. for semifinished products
7920	Finished products	0009	Ref. for finished products

Figure 52: Grouping of Valuation Classes

The figure is from the implementation Guide and displays the definition of valuation classes and their assignment to an account category reference. A user has grouped valuation classes 3000, 3001, 3002, and 3003 together and assigned the group to account category reference 0001.

As a result, the user can select any of these four valuation classes when creating the accounting view of a material with a material type that is assigned to the reference.

> **Hint:**
> When you assign an account category reference to a material type for which several valuation classes are permitted, uniquely name the valuation classes. The person who creates the material master record should know the differences between the valuation classes to guarantee accurate account determination.

Material Type and Account Category Reference

MTyp	Material type description	Acct cat. ref.	Description
COMP	Prod. alloc., purchased	0001	Reference for raw materials
CONT	KANBAN Container	0001	Reference for raw materials
DIEN	Service	0006	Reference for services
ERSA	Spare parts	0003	Reference for spare parts
FERT	Finished product	0009	Ref. for finished products
HALB	Semi-finished product	0008	Ref. for semifinished products
HAWA	Trading goods	0005	Reference for trading goods
HERS	Manufacturer parts		
HIBE	Operating supplies	0002	Ref. for operating supplies
NLAG	Non-stock material		
PROC	Process material	0009	Ref. for finished products
ROH	Raw material	0001	Reference for raw materials
UNBW	Non-valuated material	0007	Ref. for non-valuated material
VERP	Packaging	0004	Reference for packaging

Figure 53: Material Type and Account Category Reference

The figure is from the Implementation Guide and displays the assignment of account category references to material types. The user has assigned a common account category reference 0001 to material types COMP, CONT, and ROH. As a result of this assignment, the same valuation classes for these material types are available.

Realization - Example with Materials of the Same Material Type

Figure 54: Realization - Example with Materials of the Same Material Type

The example in the figure illustrates the effects of allowing various valuation classes within one material type on account determination. Different accounts are found for MAT1 and MAT2, although both materials belong to the same material type, ROH (raw material).

Consequently, you have to assign different valuation classes to the two materials.

Realization - Example with Materials of Different Material Types

Figure 55: Realization - Example with Materials of Different Material Types

In the example in the figure, there are two materials with different material types. The associated accounts are different because the system assigns different valuation classes to the two materials. The user has assigned different account category references to raw materials and spare parts, which also means that you cannot use the same valuation class for both materials.

> **Hint:**
> You can minimize errors in account determination by only assigning one valuation class to an account category reference.

How to Create Valuation Classes and Account Category References

Demonstrate how customers can adjust an SAP system to meet their company's requirements.

1. Show the most important Customizing settings for the individual slides and associated details in the application. Use the relevant exercises as a guide.

📖
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Create Valuation Classes and Account Category References

Business Example

ℹ️ You can carry out this exercise only if plant TR## has already been created. In course SCM550, this is done in the lesson Organizational levels in materials management (MM).

After taking account of the organizational structure for automatic postings, investigate the extent to which you need to group various material types and material master records in order to satisfy the requirements of your financial and cost accounting departments.

Check the groupings of material types for account determination and the assigned valuation classes. Set up new account category references and valuation classes for your material types.

Task 1

To implement the overall concept of value flow, you have to train the project members responsible for Logistics and Financial Accounting. To understand the automatic account determination process, explain the two terms account category reference and valuation class.

1. Explain the term account category reference.

   _____

   _____

   _____

2. Explain the term valuation class.

   _____

   _____

   _____

3. Make a note of the account category references and allowed valuation classes for the following material types in the training system:

Material Type	Account Category Reference	Allowed Valuation Classes
ROH		
FERT		
HALB		
NLAG		

SAP®

4. Why does the system not assign material type NLAG to an account category reference in subtask 3?

_____
_____
_____

5. Is it possible to use these valuation classes for materials belonging to other material types as well?

6. Can you assign several account category references to one material type?

Task 2

Specify settings for automatic account determination for the new material type.

1. What would you do if you needed to post the costs associated with issues (to the cost centers) of the materials of your material type GR## to a separate consumption account?

   You should suggest this consumption account through the automatic account determination process. Name the necessary steps.

   _____
   _____
   _____

2. How can you ensure that only one valuation class is used for the materials of your material type GR##?

3. Configure option 2 by creating a new account category reference **AR##**. Create the new valuation class **VC##** for this reference.

4. Test your settings by creating a material of your material type **GR##** with the views *Basic Data 1*, *Purchasing*, and *Accounting 1* for plant *1000* (price control S, valuation price EUR 10/piece).

   Does the system suggest the new valuation class **VC##**? Why or why not?

   Make a note of the material number: _____

   Extend the material master record by adding the *Purchasing* and *Accounting 1* views for plant *TR##*.

   > Hint:
   > Note that the internal material number assigned by the system has to be entered manually when the material master record is extended.

Create Valuation Classes and Account Category References

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Business Example

> ⓘ You can carry out this exercise only if plant TR## has already been created. In course SCM550, this is done in the lesson Organizational levels in materials management (MM).

After taking account of the organizational structure for automatic postings, investigate the extent to which you need to group various material types and material master records in order to satisfy the requirements of your financial and cost accounting departments.

Check the groupings of material types for account determination and the assigned valuation classes. Set up new account category references and valuation classes for your material types.

Task 1

To implement the overall concept of value flow, you have to train the project members responsible for Logistics and Financial Accounting. To understand the automatic account determination process, explain the two terms account category reference and valuation class.

1. Explain the term account category reference.

_____

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Define Valuation Classes*.

   For detailed information, call the documentation for this activity.

   The account category reference facilitates assignment of the allowed valuation classes to a material type. It is the link between the material type and the allowed valuation classes.

2. Explain the term valuation class.

_____

   a) The valuation class is a key that facilitates the material-dependent assignment of G/L accounts. Together with other factors, the valuation class determines the G/L accounts that are updated as a result of a valuation-relevant transaction.

3. Make a note of the account category references and allowed valuation classes for the following material types in the training system:

Material Type	Account Category Reference	Allowed Valuation Classes
ROH		
FERT		
HALB		
NLAG		

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Define Valuation Classes*.

b) Choose the *Material type/account category reference* pushbutton.

   Determine the account category references assigned to the material types.

c) Choose the *Valuation Class* pushbutton.

   Determine the allowed valuation classes for each account category reference.

Material Type	Account Category Reference	Allowed Valuation Classes
ROH	0001	3000, 3001, 3002, 3003
FERT	0009	7920, 7925
HALB	0008	7900, 7910
NLAG	____	____

4. Why does the system not assign material type NLAG to an account category reference in subtask 3?

   a) Materials from material type NLAG do not have an accounting view in the material master record, and therefore you do not need a valuation class.

      The system does not maintain the value of stocks for material type NLAG. Therefore, the user must specify an account assignment object and G/L account in the purchase order. The system posts the value of incoming goods to a consumption account as soon as they are received.

5. Is it possible to use these valuation classes for materials belonging to other material types as well?

   a) Yes, as long as the user has assigned the material types to the same account category reference. You can assign several material types to the same account category reference.

6. Can you assign several account category references to one material type?

   a) No, you can assign only one account category reference to a material type (the assignment is determined by the table definition).

Task 2

Specify settings for automatic account determination for the new material type.

1. What would you do if you needed to post the costs associated with issues (to the cost centers) of the materials of your material type GR## to a separate consumption account?

   You should suggest this consumption account through the automatic account determination process. Name the necessary steps.

   _____

   a) You must specify separate valuation classes for the materials of type GR##. Use the following options to specify separate valuation classes:

      a) Define a new valuation class that the system has assigned to the existing account category reference for raw materials (0001). The new valuation class is available for the material master records for the new material type because you assigned the reference to the new material type.

         However, you cannot force the user to select the new valuation class while creating the accounting view of the material master record because the account category reference for this material type allows multiple valuation classes. In addition, you can select the new valuation class for other material types (for example, raw materials).

      b) To ensure that only the new valuation class is available for the accounting view for the new material type, create a new account category reference. In the next step, assign a new valuation class to the reference.

         Assign this reference to material type GR##.

         If you use this option, use the new valuation class for each material assigned to material type GR##. The new valuation category is even suggested as the default value (when material master records are created without reference material) because it is unique.

      Using both options, you assign the G/L accounts, based on the new valuation class.

2. How can you ensure that only one valuation class is used for the materials of your material type GR##?
   a) You can only realize this by using a separate account category reference (option 2).

3. Configure option 2 by creating a new account category reference **AR##**. Create the new valuation class **VC##** for this reference.
   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Define Valuation Classes*.

   b) Choose the *Account category reference* pushbutton.

   c) Create a separate account category reference for material type *GR##*.

   d) Make a new entry **AR##** and enter a name.

e) Choose the *Valuation Class* pushbutton.

f) Make a new entry **VC##**, enter a name, and assign the account category reference **AR##** to this valuation class.

g) Choose the *Material type/account category reference* pushbutton.

By assigning the account category reference **AR##** to your material type **GR##**, you allow only the new valuation class **VC##** for the materials of your material type **GR##**.

h) Replace the account category reference *0001* with **AR##** for material type *GR##*.

4. Test your settings by creating a material of your material type **GR##** with the views *Basic Data 1*, *Purchasing*, and *Accounting 1* for plant *1000* (price control S, valuation price EUR 10/piece).

Does the system suggest the new valuation class **VC##**? Why or why not?

Make a note of the material number: _____

Extend the material master record by adding the *Purchasing* and *Accounting 1* views for plant *TR##*.

> Hint:
> Note that the internal material number assigned by the system has to be entered manually when the material master record is extended.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → MM01 - Immediately*.

b) After you define your account category reference and assign it to your material type, the system immediately provides (appears as the default value) the only allowed valuation class *VC##*.

LESSON SUMMARY
You should now be able to:

- Consider the relevance of material master records and material types for automatic account determination

📖 Setting up Account Determination for Specific Transactions

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LESSON OVERVIEW

This lesson explains the influence of business transactions on the process of automatic account determination. Key aspects are goods movements and the control function exercised by the movement type. In addition, this lesson explains the options available for the configuration of the account determination process for movement types.

ℹ️ Build on participants' prior knowledge of goods movements and ask them to explain the postings for various movements (such as a goods receipt (GR) into warehouse or stores for a standard purchase order (PO) or a GR into a warehouse or stores for a stock transport order).

Business Example

You need to familiarize yourself with the scope of the account determination functionality for the processes in your company.

You want to complete the settings for account determination for your new material type. For this reason, you require the following knowledge:

- An understanding of the definition of a value string and how to determine it for goods movements

- An understanding of how to set up and verify the account determination process for individual transactions

🖥️ LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Set up account determination for specific transactions

Account Determination Wizard

⚙	Welcome screen
⚙	Prerequisites
⚙	Select material types used
⚙	Activate purchase account management
⚙	Activate purchase account management for company codes
△	Assign chart of accounts
▣	Assign plants to groups
▣	Different inventory accounts
▣	Examine different material types
▣	Select account postings
▣	Maintain inventory accounts
▣	Maintain stock account
▣	Maintain debit / credit rule
▣	Maintain MM transactions
▣	Final screen

Figure 56: Account Determination Wizard

The account determination wizard is an excellent tool to understand the sequence of Customizing settings for account determination.

If you work with the wizard, you can specify the system settings for automatic account determination by answering a series of questions. You can call up further information for recommendations and hints. Depending on your answers to the questions, the system accesses the relevant Customizing tables.

Apart from a few restrictions (specified in the wizard), you can call the following functions by using the account assignment wizard:

- Display and/or maintain company codes, plants, and material types (prerequisite)

- Choose the material types to be used

- Set up purchase account management (necessary for certain countries only, such as France, Belgium, and Spain)

- Group together valuation areas

- Define the rules for stock and other postings

- Define valuation classes

- Assign stock accounts

- Assign the other general ledger (G/L) accounts depending on the business transaction

Business Processes and Account Determination

Client	CAcct	Transaction	VG	AG	VClass	G/L Acct DEBIT	G/L Acct CREDIT
400	INT	**BSX**	0001	---	3000	300 000	300 000
400	INT	**WRX**	---	---	---	191 100	191 100
400	INT	**PRD**	---	PRA	3000	231 000	281 000
400	INT	**GBB**	0001	VBR	3000	400 000	400 000

Figure 57: Business Transactions Influencing Account Determination

In the table in the figure, the abbreviations have the following meanings:

- CAcct = Chart of accounts

- VG = Valuation grouping code

- AG = Account grouping code (*gen. acct. modif. code* or *modifier*)

- VClass = Valuation class

An SAP system predefines the posting transactions for each accounting-relevant transaction in materials management (MM). A transaction key (for example, BSX, WRX, PRD, and GBB) is a key for account determination and symbolizes the business transaction event. To enable different companies to use different charts of accounts, the system assigns generalized posting records to each transaction. The assignment is done using a value string.

Instead of specific G/L account numbers, the value string contains the transaction event key for the relevant posting transaction. The first transaction event key of a posting rule stands for a debit posting.

The system predefines the posting transactions for accounting-relevant transactions in inventory management and invoice verification and you cannot change them.

Account Determination Process in Materials Management

Figure 58: Account Determination Process in MM
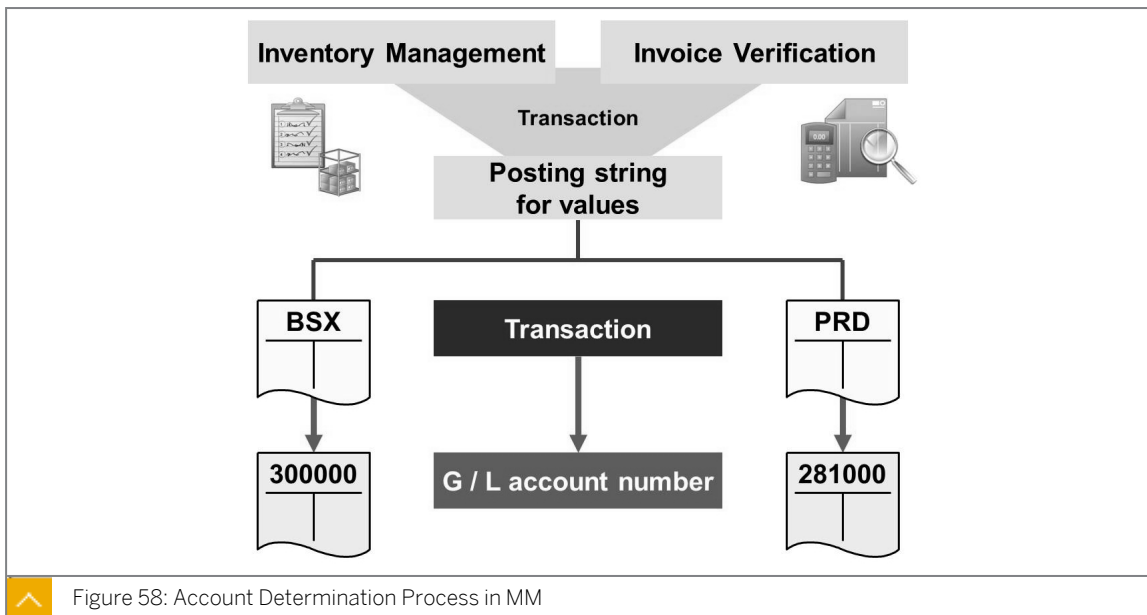
The system assigns generalized posting records in a value string (posting rule) for each relevant movement type in inventory management and each transaction in invoice verification. Instead of specific G/L account numbers, this value string contains the keys for the relevant posting transactions (for example, BSX for stock posting and PRD for price difference posting).

You do not have to define these transaction/event keys. The SAP system automatically determines these keys from the transaction in invoice verification or the transaction and movement type in inventory management. You only need to assign the G/L account to which the system has to make postings for each transaction.

Determination of the Value String for Goods Movements

Figure 59: Determination of the Value String for Goods Movements
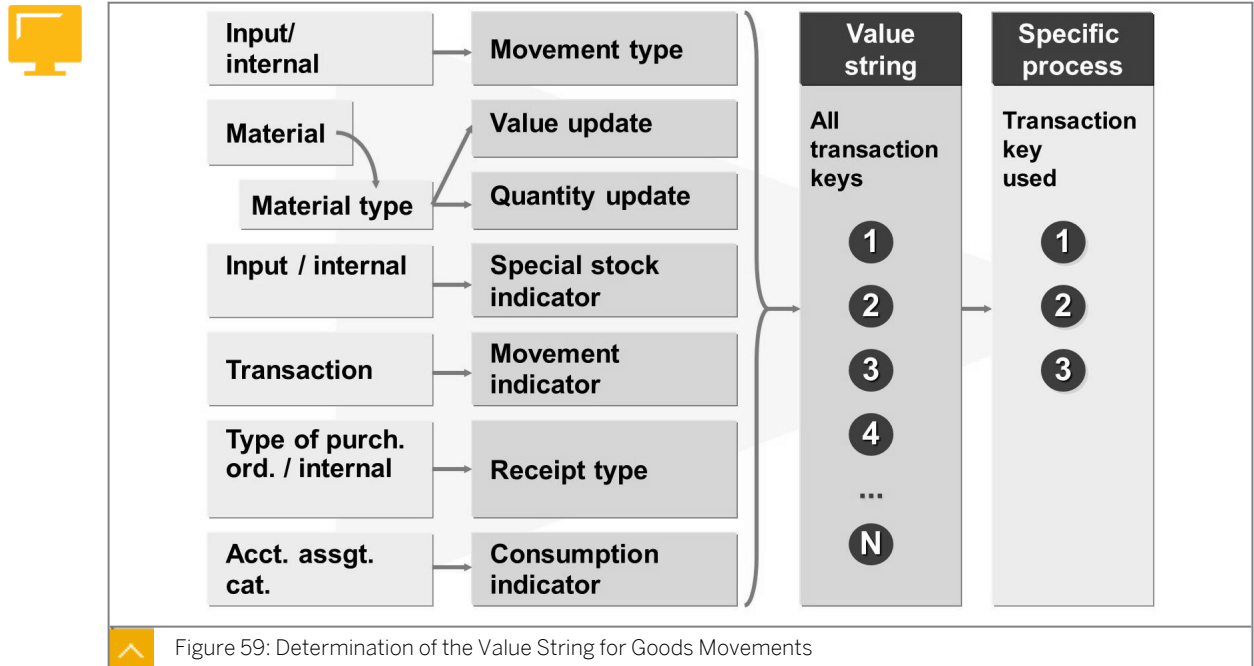
You can see the assignments of value strings to goods movements and the breakdown of the value strings into transaction event keys in Customizing for Inventory Management and Physical Inventory, but you cannot change them.

Assign the relevant G/L accounts to the corresponding posting transactions in Customizing for valuation and account assignment.

The system automatically identifies the value string assigned to a specific transaction, depending on the parameters you enter manually and parameters derived internally by the system.

The value string contains the maximum possible posting transactions for a transaction. For each transaction, the program identifies which posting transactions lead to G/L postings. You cannot define these posting transactions outside the program.

Realization – Example

Figure 60: Realization – Example
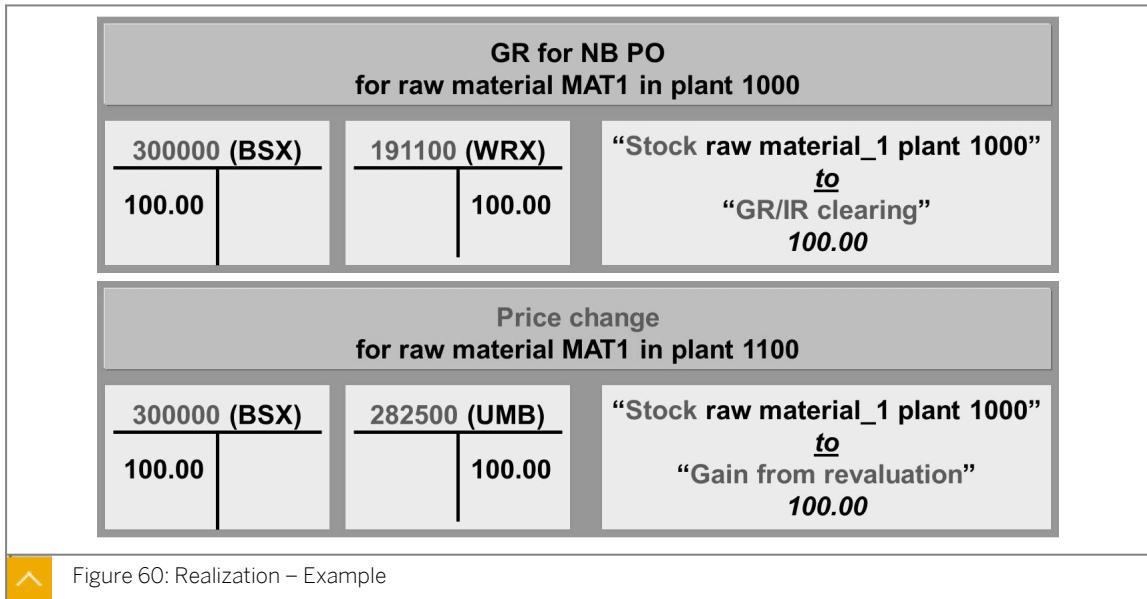
As shown in the figure, the system assigns different value strings (WE01 and RE05) to two transactions.

Value string WE01 (for the GR for and NB PO to the warehouse) contains transactions BSX and WRX.

Value string RE05 contains operations BSX and UMB.

The GR posting represents a GR against an NB PO into the warehouse or stores. The relevant PO item has no account assignment and is of the standard category. The system assigns value string WE01 to this business transaction for materials subject to value-based (and quantity-based) inventory management.

Value Strings Example - WE01

Figure 61: Value Strings Example - WE01
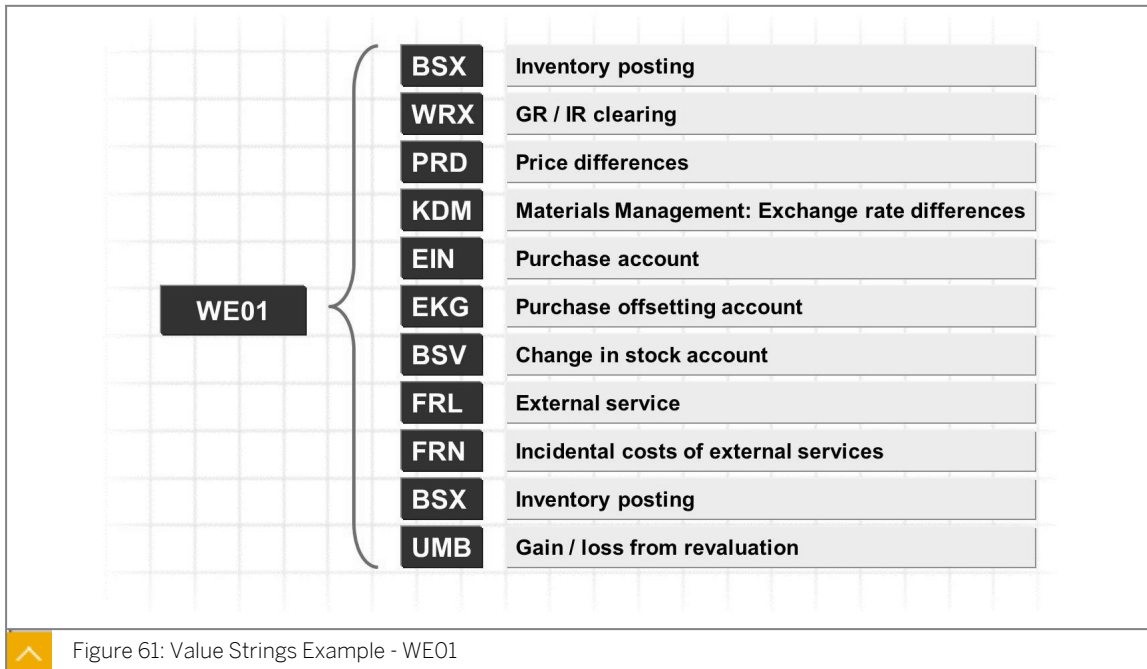
As shown in the figure, the following transaction/event keys are assigned to value string WE01:

- BSX for (all) postings to stock accounts

- WRX for postings to the GR/IR clearing account after goods and invoice receipts relating to NB POs

- UMB for the offsetting entry in the case of a price change (accounts for loss or gain from revaluation)

The documentation for the Customizing activity *Configure Automatic Postings* contains more detailed information on all SAP transaction/event keys.

> Hint:
> Some transaction/event keys (for example, EIN for postings to a purchase account) are country specific.
>
> Check which transactions are relevant for your company. There is no need to assign G/L accounts for transactions that are not relevant to you.

The standard system assigns value string WE01 to GRs for standard POs (and corresponding reversals and return deliveries) to items that have no account assignment. These GRs are of the category standard or subcontracting for valuated material into the warehouse or stores.

List of Transaction/Event Keys

The following table lists the transaction/event keys and their uses:

Transaction/Event Key Name	Transaction/Event Key Description	Use
BSX	Stock Posting	For a GR valuated by a system against a PO item without an account assignment, the system always makes a posting to a stock account.
WRX	GR/IR Clearing Account	The offsetting entry to the GR valuated by the system is made to the GR/IR clearing account.
PRD	Price difference posting	The system makes this posting if a material is valuated at a standard price and the PO price (or invoice price) varies from the standard price.

Transaction/Event Key Name	Transaction/Event Key Description	Use
KDM	Exchange rate differences	This transaction/event key is needed in MM for a PO in foreign currencies in which different exchange rates are applied at the times of goods receipt and invoice receipt. This key is used if the system cannot debit or credit the material account due to standard price control or lack of stock.
EIN	Purchase Account	This transaction/event key is applicable in company codes in which purchase account management is active (for example, as is legally required in France or Belgium).
EKG	Purchase Offsetting Account	This transaction/event key is applicable in company codes in which purchase account management is active (for example, as is legally required in France or Belgium).
BSV	Changes in stock account	The system uses this transaction/event key only with the item category subcontracting.
FRL	External Services	The system uses this transaction/event key only with the item category subcontracting.
FRN	Incidental costs for External Services	The system uses this transaction/event key only with the item category subcontracting.

Value Strings Example - WA14
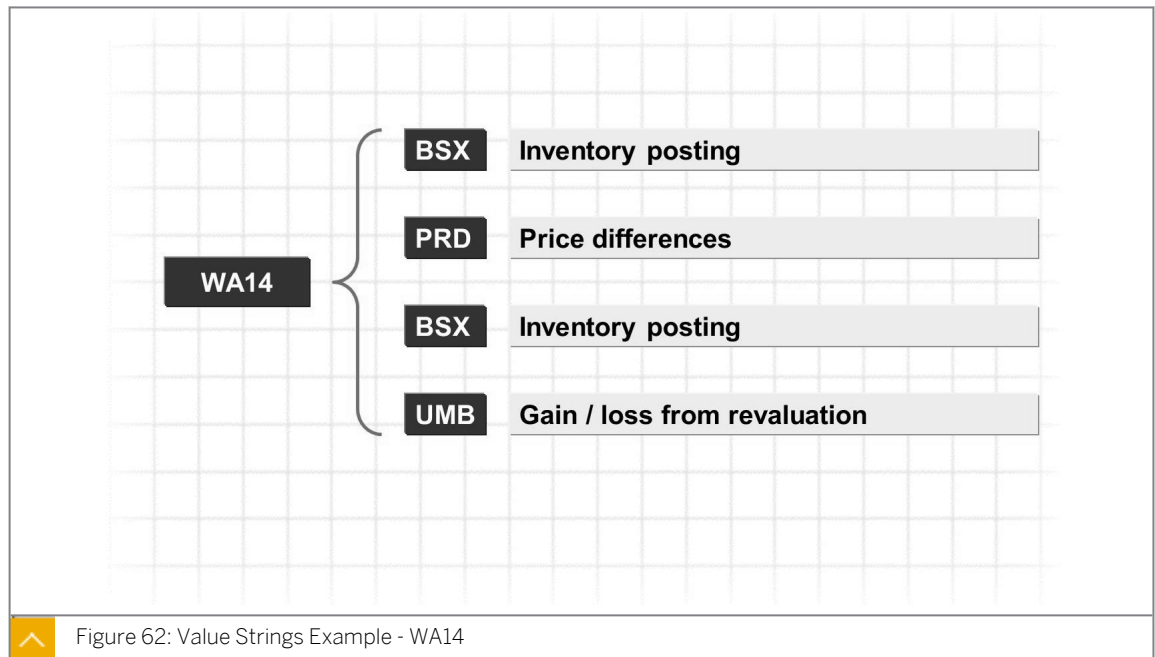
Figure 62: Value Strings Example - WA14

As displayed in the figure, transaction/event key BSX appears twice in value string WA14. The meaning of key UMB is gain or loss from revaluation.

The system provides value string WA14 for the goods movement free-of-charge delivery (movement type 511) for materials with value-based inventory management.

Cases for Value Strings Example - WA14

The following cases are possible for value string WA14:

Case	Description
Free delivery of a material with price control V	The system does not generate an accounting document because it valuates the receipt at zero. The system generates a material document, which leads to an increase in stock.
Free delivery of a material with price control S (and if the posting date lies in the previous period, standard price in the posting period = standard price in the current period)	The system generates an accounting document containing a stock posting for the receipt at standard price (transaction BSX) and a posting to a revenue account for price differences (transaction PRD).
Free delivery of a material with price control S and a posting date in the previous period, where the standard price differs from the standard price in the current period	The system generates accounting documents for the and current periods (adjustment posting). Key BSX occurs twice because these accounting documents have the same stock posting (transaction/event key BSX).

The accounting document for the previous period contains the receipt to the stock account at the standard price of the previous period (transaction BSX) and the price difference posting (transaction PRD) with the same amount.

The accounting document of the current period is based on the variance between the standard prices of the previous and current periods. The system carries out a price change for the quantity posted retrospectively to the previous period. This accounting document (posting date = first day of the current period) contains the stock adjustment posting (second transaction BSX) and a posting to a Gain/Loss from revaluation account (transaction UMB).

Assignment of G/L Account Numbers

Figure 63: Assignment of G/L Account Numbers
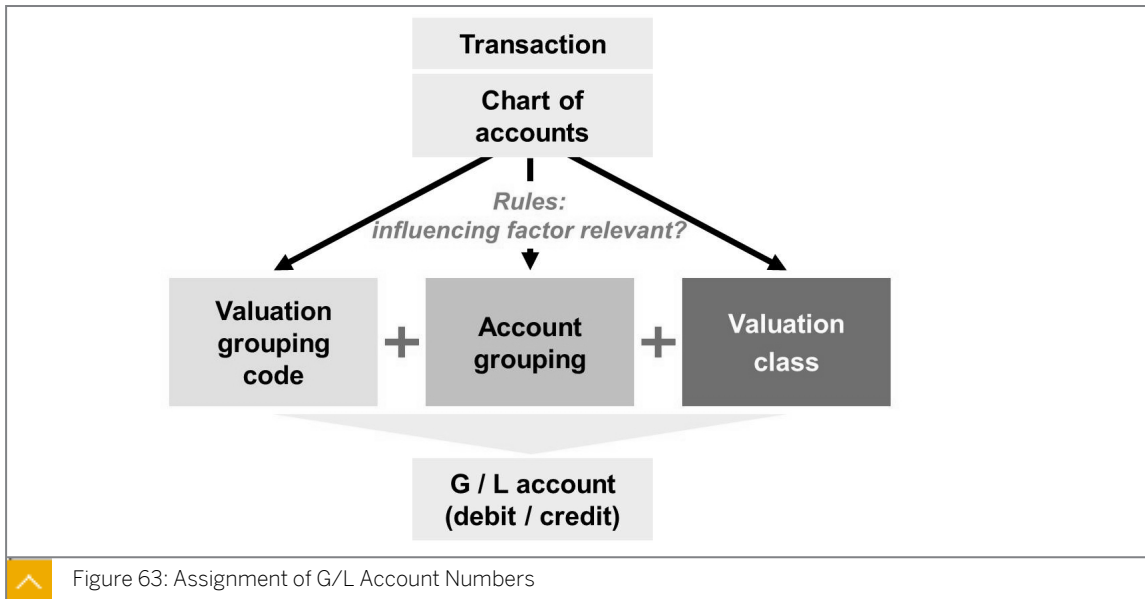
Specify the rules based on which the system assigns G/L accounts to a particular transaction by using automatic account determination.

The assignment of G/L accounts depends on the valuation grouping code (that is, the valuation area), account grouping code (not possible for every posting key), and valuation class.

With a further indicator, specify for each posting transaction whether different G/L accounts are to be assigned for the debit and credit postings (the assignment is possible for postings to expense or revenue accounts, such as price differences).

The figure is from the Implementation Guide, and it illustrates how the system assigns G/L accounts to stock accounts, that is, how the system assigns G/L accounts to transaction BSX (stock posting). This assignment applies only within the chart of accounts, INT.

For transaction BSX (for the chart of accounts, INT), the system defines the dependency on the valuation grouping codes and the valuation class with rules.

> **Caution:**
> If you change the rules for a transaction, all entries in the account determination table for this transaction are deleted.

Assignment of Stock Accounts (Transaction BSX)

| Chart of Accounts | INT | Chart of accounts - international |
| Transaction | BSX | Inventory posting |

Account assignment

Valuation modif.	Valuation class	Account	
0001	3000	300000	▲
0001	3001	300010	▼
0001	3030	303000	
0001	3040	304000	
0001	3050	305000	
0001	3100	310000	
0001	7900	790000	
0001	7910	790010	
0001	7920	792000	

Position

Figure 64: Assignment of Stock Accounts (Transaction BSX)

For inventory-managed materials, assign a valid G/L account for each combination of valuation grouping code and valuation class that occurs for a business process.

In addition, assign the Financial Accounting (FI) posting keys for the debit and credit postings to each posting transaction under posting keys. A posting key is a two-character numeric key that controls the entry of document items.

The posting key determines the account type (vendor/creditor, customer/debtor, asset, material, or G/L account), debit or credit posting, and layout of the entry screens.

> **Hint:**
> G/L account definition is done in Customizing for *Financial Accounting* under *General Ledger Accounting → G/L Accounts → Master Data → G/L Account Creation and Processing → Edit G/L Account (Individual Processing) → Edit G/L Account Centrally* (FS00).

Simulation of Account Assignment

Selection:

✓ **Plant**
✓ **Material number or valuation class**
✓ **Application area → Movement type / transaction**

Information:

✓ **Account numbers and posting keys**
✓ **Parameters for the account determination**
✓ **Possible note that a G / L account does not exist**
✓ **Check of the screen layout for goods movements**

Figure 65: Simulation of Account Assignment

A simulation function enables you to check the settings for automatic account determination. This function outputs all the factors that influence account determination and additional information.

> **Hint:**
> A simulation function is especially helpful in inventory management. You cannot execute a simulation in the application.

The simulation, which you can call in the activity *Configure Automatic Postings*, shows the G/L accounts that the system has assigned.

You can assign the G/L accounts for the specified material or valuation class, plant and inventory management or invoice verification transaction.

You can also choose between the following options:

• Input of material number or valuation class (input mode)

• Transaction in inventory management or invoice verification (application area)

When you call the simulation function, the system can check whether the accounts you have assigned exist in the chart of accounts, based on the specified settings.

During the simulation, all transaction/event keys for the relevant value string are taken into account, regardless of their significance to your company code (for example, EIN, EKG, and FRE).

Within the simulation for inventory management transactions, you can check the compatibility of field selection for the movement type you select and field selection for the accounts you assign (report RM07CUFA).

Account Assignment Simulation


```
Organization
Plant            1000   -> Company Code    1000   -> Chart of Accounts    INT
                        -> Valuation area  1000   -> Valuation Grpg Code  0001

Valuation
Material         R-T100                           -> Valuation Class       3000
                        Material Type     ROH    -> ☑ Value updating

Movement
Movement Type    511         GI deliv. w/o charge

Posting Lines
Posting Lines Text                VlGCd AGC  VCl  PK Acct D      PK Acct Cr
Gain/loss from revaluation        ·e·   ·e·  3000 83 232500      93 282500
Inventory posting                 0001  ·e·  3000 89 300000      99 300000
Cost (price) differences          ·e·   PRA  3000 83 231000      93 281000
Inventory posting                 0001  ·e·  3000 89 300000
```

Figure 66: Simulation of Account Assignment

The figure is from the Implementation Guide, and it shows the simulated account determination for movement type free-of-charge delivery (MvT 511) for a raw material.

The four posting lines displayed in the lower block correspond to the four transaction/event keys that belong to value string WA14. The entry - *e* - means that the rule (dependency) is not active for the corresponding transaction.

How to Create Valuation Classes and Account Category References
Demonstrate how customers can adjust an SAP system to meet their company's requirements.

1. Show the most important Customizing settings for the individual slides and associated details in the application. Use the relevant exercises as a guide.

Set up Account Determination for Specific Transactions

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Business Example

Before specifying the settings for automatic postings in your system, you want to get a clear picture of navigation within the account determination function. Do this by taking an accounting transaction for plant 1000 in the system as an example.

Check the rules used to define various dependencies in account determination and determine the G/L accounts assigned by the system to individual transactions and assign further G/L accounts. Also, check the settings for automatic account determination by using the simulation function.

Task 1

To post a valuated goods receipt in the warehouse for a purchase order of type NB with the item category standard, you need account assignments for the following transactions:

1. Look at the rules for these two transactions for the chart of accounts, INT.
   Do not change any of these rules.

   Which dependencies have been defined for the transactions BSX and WRX?

   _____
   _____
   _____

2. Determine which G/L accounts are assigned to these transactions for goods movements in plant 1000.
   Which valuation grouping code is assigned to plant 1000?
   Valuation grouping code: _____
   Enter the G/L account numbers for some valuation classes in the following table:

Valuation Class	Transaction BSX	Transaction WRX
3000		
3001		
3030		
7900		

Task 2

Assign the necessary G/L accounts for goods receipt postings with reference to a PO for materials of your new material type *GR##*. In this task, consider goods movements in plant *1000* only.

1. Can you immediately post a goods receipt against a standard PO in the warehouse in plant *1000* for your material from the previous exercise (material type *GR##*)? Why or why not?

   _____
   _____
   _____

2. Assign the same stock account for automatic postings in plant *1000* for materials with valuation class *VC##* as is assigned to valuation class *3000* (transaction BSX).

   Can you copy existing entries?

   _____
   _____
   _____

3. Using the simulation function, check if the same accounts are used for material *R-T1##* and your new material with valuation class *VC##* in the case of a GR for a PO into the warehouse in plant *1000*.

   > Hint:
   > Note only transactions BSX and WRX that are mentioned and ignore the other transactions that are displayed. Ignore any messages about G/L accounts that do not exist.

4. Check if the GR posting is carried out correctly. To check the posting, create a standard PO without account assignment for your material using material type `GR##`.

   Use vendor `T-K500A##`, purchasing organization `1000` (IDES Deutschland), purchasing group `Z##`, and plant `1000`. Order `10` pieces (pc) at a unit price of `EUR 10` each. Enter the current date as the delivery date.

   Note the PO number: _____

   Next, post the GR for this PO to storage location `0001`.

   Make a note of the material document number _____

   In the accounting document, check if a posting was actually made to the stock account assigned in task 2-2.

Task 3

Optional:

Assign the G/L accounts required for the GR postings in plant *TR##*. In this task, consider only GRs for standard POs to the warehouse for the materials for your new material type and raw materials with valuation class *3000*.

   _____
   _____
   _____

1. Can you post a GR for a standard PO to the warehouse in plant *TR##* for your material *R-T1##*? Why or why not?

2. Assign stock account *300550* (transaction BSX) for the automatic postings in plant *TR##* for the materials with your new valuation class *VC##* and raw materials with valuation class *3000*.

3. Using the simulation function, check if, in the case of a GR for a standard PO to the warehouse in plant `TR##`, account *300550* is always used for the stock posting for raw material `R-T1##` and your new material with valuation class *VC##*.

> Hint:
> Note that only transactions BSX and WRX are mentioned. Ignore the other transactions that are displayed.

4. Check if the GR posting is carried out correctly. To check the posting, create a new PO for your material using material type `GR##` and for material `R-T1##`.

   Order `10` pieces at a price of `EUR 10` for both materials and your plant *TR##*. Enter the current date as the delivery date. Note the number of the PO created.

   Post the GR to the warehouse (storage location *0001*) for this PO.

   Note the material document number:

   _____
   _____
   _____

   In the accounting document, check if the GR value was posted to stock account *300550*.

Set up Account Determination for Specific Transactions

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Business Example

Before specifying the settings for automatic postings in your system, you want to get a clear picture of navigation within the account determination function. Do this by taking an accounting transaction for plant 1000 in the system as an example.

Check the rules used to define various dependencies in account determination and determine the G/L accounts assigned by the system to individual transactions and assign further G/L accounts. Also, check the settings for automatic account determination by using the simulation function.

Task 1

To post a valuated goods receipt in the warehouse for a purchase order of type NB with the item category standard, you need account assignments for the following transactions:

1. Look at the rules for these two transactions for the chart of accounts, INT.
   Do not change any of these rules.

   Which dependencies have been defined for the transactions BSX and WRX?

   ---

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Account Assignment* pushbutton.

   d) Select the row that has the value *BSX* or *WRX* in the *Transaction* field.

   e) Choose *Goto → Rules*.

   > Note:
   > You can also select the desired transaction by double-clicking it and branching from the account overview to the rules.

   f) If necessary, in the *Enter Chart of Accounts* dialog box, enter the value **INT** in the *Enter Chart of Accounts* field.

With the rules, the following dependencies are determined for transactions BSX and WRX:

Transaction	Dependency
BSX	Dependent on the valuation grouping code and valuation class
WRX	Dependent on the chart of accounts only; not dependent on the valuation grouping code and valuation class

2. Determine which G/L accounts are assigned to these transactions for goods movements in plant 1000.

Which valuation grouping code is assigned to plant 1000?

Valuation grouping code: _____

Enter the G/L account numbers for some valuation classes in the following table:

Valuation Class	Transaction BSX	Transaction WRX
3000		
3001		
3030		
7900		

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Group Together Valuation Areas.*

The valuation grouping code for plant 1000 is 0001.

b) Determine the accounts that are assigned for transactions BSX and WRX in the chart of accounts, INT.

In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

c) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

d) Choose the *Account Assignment* pushbutton.

e) Select the row that has the value *BSX* or *WRX* in the *Transaction* field. If necessary, in the *Enter Chart of Accounts* dialog box, enter the value **INT** in the *Enter Chart of Accounts* field.

The following accounts are used in the system:

Valuation Class	Transaction BSX	Transaction WRX
3000	*300000*	*191100*
3001	*300010*	*191100*
3030	*303000*	*191100*

Valuation Class	Transaction BSX	Transaction WRX
7900	*790000*	*191100*

Task 2

Assign the necessary G/L accounts for goods receipt postings with reference to a PO for materials of your new material type *GR##*. In this task, consider goods movements in plant *1000* only.

1. Can you immediately post a goods receipt against a standard PO in the warehouse in plant *1000* for your material from the previous exercise (material type *GR##*)? Why or why not?

   No, because no stock account has been assigned in plant *1000* for valuation class *VC##*.

2. Assign the same stock account for automatic postings in plant *1000* for materials with valuation class *VC##* as is assigned to valuation class *3000* (transaction BSX).

   Can you copy existing entries?

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Account Assignment* pushbutton.

   d) On the *Configuration Accounting Maintain: Automatic Posts – Procedures* screen, double-click the row that has the value *BSX* in the *Transaction* field to select it.

   > **Hint:**
   > Although you can copy the complete entries for a chart of accounts by choosing *Edit → Copy* in the menu, you need not do this because this is not required.

   e) You can copy an individual entry (which you can select by appropriately positioning the cursor) by choosing (*Copy*).

   f) Place the cursor on the row with the following data:

Field Name or Data Type	Value
Valuation Grouping Code	*0001*
Valuation Class	*3000*

   g) Choose the *Copy* pushbutton. The selected line is duplicated.

h) Replace valuation class *3000* in this line with **VC##**.

i) Save your entries.

3. Using the simulation function, check if the same accounts are used for material *R-T1##* and your new material with valuation class *VC##* in the case of a GR for a PO into the warehouse in plant *1000*.

> **Hint:**
> Note only transactions BSX and WRX that are mentioned and ignore the other transactions that are displayed. Ignore any messages about G/L accounts that do not exist.

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

c) Choose the *Simulation* pushbutton.

d) On the *Simulate Inventory Mgmt: Entry of Simulation Data* screen, enter the following data:

Field Name or Data Type	Value
Plant	**1000**
Material	**R-T1##**
Movement Type	*101*

e) Choose the *GR goods receipt* pushbutton.

f) Choose the *Account Assignment* pushbutton.

g) The following data appears in the last two lines:

Description	Account
Inventory posting (BSX)	*300000*
GR/IR clearing account (WRX)	*191100*

4. Check if the GR posting is carried out correctly. To check the posting, create a standard PO without account assignment for your material using material type **GR##**.

Use vendor **T-K500A##**, purchasing organization **1000** (IDES Deutschland), purchasing group **Z##**, and plant **1000**. Order **10** pieces (pc) at a unit price of **EUR 10** each. Enter the current date as the delivery date.

Note the PO number: _____

Next, post the GR for this PO to storage location **0001**.

Make a note of the material document number _____

In the accounting document, check if a posting was actually made to the stock account assigned in task 2-2.

a) To create the PO, on the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known* (`ME21N`).

Create the PO as described in the task.

b) On the *Create Purchase Order* screen, enter **T-K500A##** in the *Vendor* field and press *Enter*.

c) On the *Org. Data* tab page, enter the following data:

Field Name or Data Type	Value
Material	**200000###**
PO Quantity	**10**
Net Price	**10**
Plnt	**1000**

d) Save your entries.

e) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Follow-On Functions → Goods Receipt* (`MIGO`).

f) Enter **0001** in the *storage location* field.

g) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Post the GR for your PO.

h) Choose *Display* as the transaction and *Material Document* as the reference.

i) On the *Lists of Documents in Accounting* dialog box, choose the document number.

j) Look at the accounting document for your material document and check the account determination for valuation class *VC##*. On the *Doc. Info* tab page, choose the *FI Documents* pushbutton.

The following result is displayed:

Description	Account
Trading Goods	*300000*
Goods rcvd/Invoice R.	*191100*

Task 3

Optional:

Assign the G/L accounts required for the GR postings in plant *TR##*. In this task, consider only GRs for standard POs to the warehouse for the materials for your new material type and raw materials with valuation class *3000*.

1. Can you post a GR for a standard PO to the warehouse in plant *TR##* for your material *R-T1##*? Why or why not?

   a) No, because no stock account has been assigned for plant *TR##* and for valuation class *3000*.

2. Assign stock account *300550* (transaction BSX) for the automatic postings in plant *TR##* for the materials with your new valuation class *VC##* and raw materials with valuation class *3000*.

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Account Assignment* pushbutton.

   d) On the *Configuration Accounting Maintain: Automatic Posts - Procedures* screen, choose only transaction *BSX*.

   e) Make new entries for the transaction BSX with your valuation grouping code **VG##** and the two valuation classes **3000** and **VC##**. Enter **300550** in the *Account* field.

   f) Save your entries.

   > Note:
   > No new entry is necessary for transaction WRX because the account determination rules have been defined in such a way that the GR/IR clearing account is not dependent on the valuation grouping code.

3. Using the simulation function, check if, in the case of a GR for a standard PO to the warehouse in plant **TR##**, account *300550* is always used for the stock posting for raw material **R-T1##** and your new material with valuation class *VC##*.

   > Hint:
   > Note that only transactions BSX and WRX are mentioned. Ignore the other transactions that are displayed.

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the Valuation Area dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Simulation* pushbutton.

   d) On the *Simulate Inventory Mgmt: Entry of Simulation Data* screen, enter the following data:

Field Name or Data Value	Value
Plant	**TR##**
Material	**R-T1##**

Field Name or Data Value	Value
Movement Type	*101*

e) Choose the *GR goods receipt* pushbutton.

f) Choose the *Account Assignment* pushbutton.

g) The following accounts are displayed:

Description	Account
Inventory posting (BSX)	*300550*
GR/IR clearing account (WRX)	*191100*

4. Check if the GR posting is carried out correctly. To check the posting, create a new PO for your material using material type **GR##** and for material **R-T1##**.

Order **10** pieces at a price of **EUR 10** for both materials and your plant *TR##*. Enter the current date as the delivery date. Note the number of the PO created.

Post the GR to the warehouse (storage location *0001*) for this PO.

Note the material document number:

_____

In the accounting document, check if the GR value was posted to stock account *300550*.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known* (ME21N).

b) Enter the two PO items for plant *TR##*, as described in the task.

> **Note:**
> The PO price for both items must be the same as the standard price in the material master record.

c) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Follow-On Functions → Goods Receipt* (MIGO).

d) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Post the GR for your PO.

e) Choose *Display* as the transaction and *Material Document* as the reference.

f) Look at the accounting document for your material document and check the account determination for GR posting.

The following accounts should appear for both GR items:

Description	Account
Inventory posting	*300550*
GR/IR clearing account	*191100*

LESSON SUMMARY
You should now be able to:

- Set up account determination for specific transactions

Using the Account Grouping Code

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LESSON OVERVIEW

This lesson explains the influence of business transactions on the process of automatic account determination. The key aspects of this lesson are goods movements and the control function used by the movement type. This lesson also introduces the options available for the configuration of account determination for movement types.

> If you have sufficient time, you can show further postings with price variances.

Business Example

You need to familiarize yourself with the scope of the account determination functionality for the processes in your company.

You want to complete the settings for account determination for your new material type. For this reason, you require an understanding of the significance of the account grouping code.
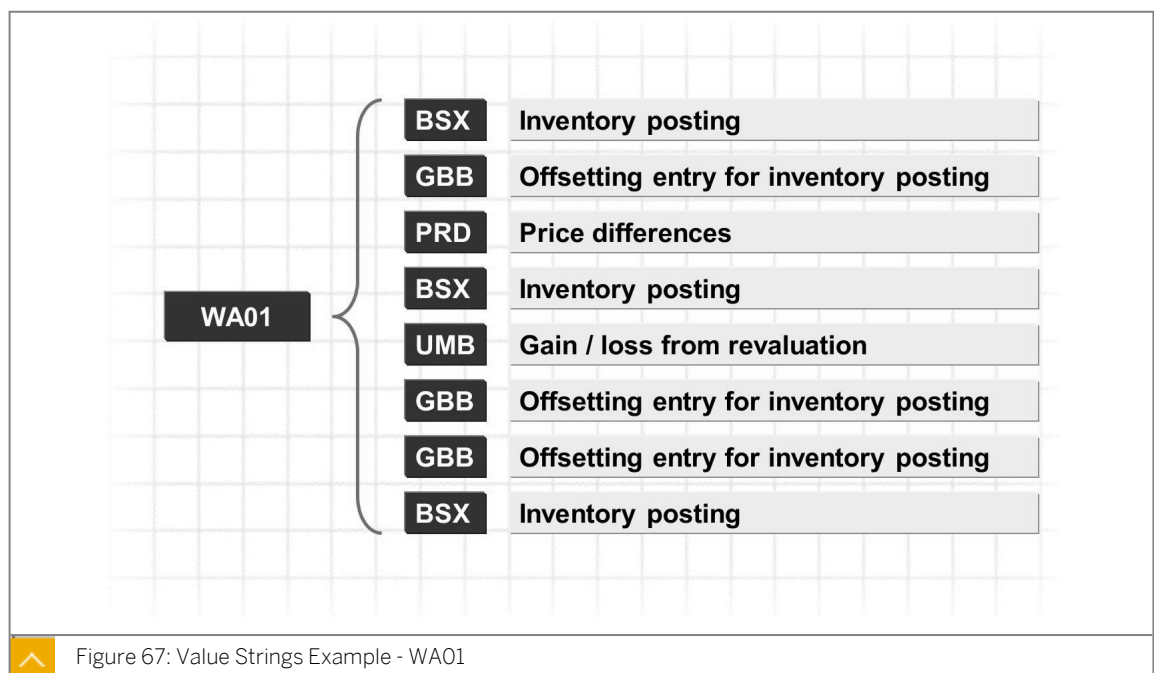
LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Use the account grouping code

Business Processes and Account Determination

Figure 67: Value Strings Example - WA01

An SAP system assigns value string WA01 to various goods issues and other goods Receipts (GRs). Differentiate these movements in the automatic account determination process by using the account grouping code.

When you post a business process in your company, the system pre-assigns the necessary accounts for each transaction belonging to the value string. You can reduce the effort involved if the general ledger (G/L) accounts do not depend on all three influencing factors in the case of individual transactions. Before assigning the G/L accounts, define the rules for each transaction and chart of accounts according to your requirements.

Account Grouping Code

The system uses the posting transaction *Offsetting Entry for Inventory Posting* for different transactions and events (such as goods issue, scrapping, and physical inventory).

However, the system has assigned these transactions and events to different accounts (for example, consumption account, expense due to scrapping, expense, or revenue from inventory differences).

To accomplish this, you need to subdivide the transaction further by using one more key.

Subdivide the transaction by using account grouping (also known as general modification). You can define the names (keys) of account groupings. Some keys (such as VBR) are part of the SAP standard.

Influence of Business Transactions on Account Determination

Account grouping code

➔ The key for account determination that enables a differentiation for G/L account assignment for the offsetting posting to the stock posting (Trans. GBB), and possible further transactions

➔ Depending on the movement type and the special stock indicator, you can assign an account grouping (any account grouping) for individual transactions (such as GBB, PRD, ...).

Client	CAcct	Transaction	VG	AG	VClass	G/L Acct DEBIT	G/L Acct CREDIT
400	INT	PRD	---	__	3000	231 100	281 100
400	INT	PRD	---	**PRA**	3000	231 500	281 500
400	INT	GBB	0001	**BSA**	3000	399 999	399 999
400	INT	GBB	0001	**VBR**	3000	400 000	400 000

Figure 68: Business Transactions

In the table displayed in the figure, the abbreviations have the following expansions:

- CAcct = Chart of accounts

- VG = Valuation grouping code

- AG = Account grouping code (*gen. acct. modif. code* or *modifier*)

- VClass = Valuation class

An account grouping code enables you to group G/L accounts by the transaction/ event key during account determination. In materials management (MM), assign G/L accounts to individual transactions depending on the movement type of a goods movement.

In the standard system, the account grouping code is active only for transaction/event key GBB (offsetting entry for inventory posting) in the MM area. However, you can also use account grouping for other transactions in your company (for instance, for price differences).

For goods movements, assign the account grouping code to the posting transaction *Offsetting Entry for Inventory Posting*, depending on the movement type and other indicators.

Transaction/Event Key and Account Grouping Code

Figure 69: Transaction/Event Key and Account Grouping Code
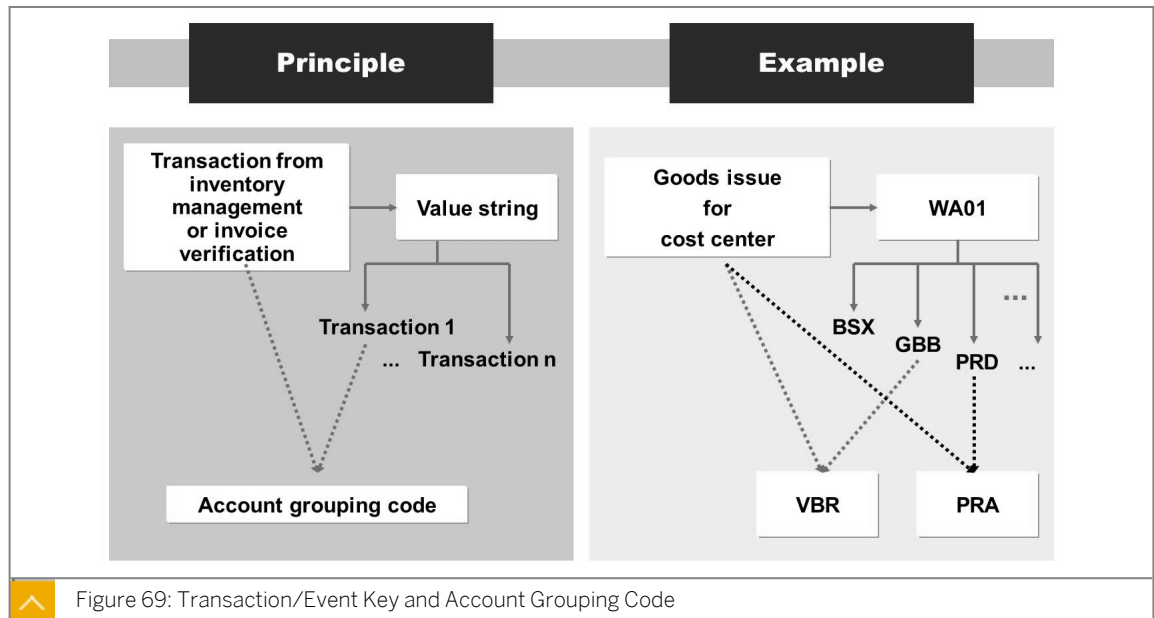
Value strings contain the keys for the posting transactions that can lead to G/L account updates in a Financial Accounting (FI)-relevant posting. SAP predefines these value strings. You cannot change value strings or the transactions they include in Customizing.

For each posting transaction, set up automatic postings, based on the other influencing factors, and then differentiate specific posting transactions on a transaction-specific basis by using an account grouping code.

In the case of inventory management transactions, you can change the account grouping (or modification) code, depending on the movement type and other indicators (such as the special stock indicator).

> Hint:
> You cannot change the account grouping code for invoice verification transactions.

Assignment of G/L Accounts for Transaction GBB

| Chart of Accounts | INT | Chart of accounts - international |
| Transaction | GBB | Offsetting entry for inventory posting |

Account assignment

General modification	Valuation class	Debit	Credit
VBO	3100	400020	400020
VBO	7900	893020	893020
VBO	7920	893020	893020
VBR		400000	400000
VBR	1210	400000	400000
VBR	3000	400000	400000
VBR	3001	400010	400010
VBR	3002	400000	400000
VBR	3003	400000	400000
VBR	3030	403000	403000
VBR	3040	404000	404000
VBR	3050	405000	405000
VBR	3100	410000	410000
VBR	3200	417000	417000
VBR	3300	400000	400000
VBR	7900	890000	890000
VBR	7910	891000	891000
VBR	7920	892000	892000
VKA	3000	894010	894010

Figure 70: Assignment of G/L Accounts for Transaction GBB

The figure is from the Implementation Guide and explains the assignment of G/L accounts for the transaction *Offsetting Entry to Stock Posting* for different account grouping codes and valuation classes.

The system does not use any entry with blank valuation class for goods movements. It uses this blank valuation class entry only as a default account for items with non-blank account assignment in purchasing documents.

Realization – Example

Goods issue for production order – MvT 261 Account grouping code VBR is assigned to MvT 261		
300 000 (BSX)	400 000 (GBB VBR)	**"Consumption raw materials_1 plant 1000"**
100,00	100,00	_to_
		"Stock raw materials_1 plant 1000 "_100,00_

Goods issue due to scrapping – MvT 551 Account grouping code VNG is assigned to MvT 551		
300 000 (BSX)	400 001 (GBB VNG)	**"Expenses scrappingplant 1000"**
100,00	100,00	_to_
		"Stock raw materials_1 plant 1000" _100,00_

Goods issue due to inventory differences – MvT 702 Account grouping code INV is assigned to MvT 702		
300 000 (BSX)	233 000 (GBB INV)	**"Exp. Inventory differences plant 1000"**
100,00	100,00	_to_
		"Stock raw material_1 plant 1000" _100,00_

Figure 71: Realization – Example

The figure illustrates various standard account grouping codes that an SAP system assigns to movement types, regardless of further indicators.

However, you can assign different consumption accounts to the same movement type (for example, a goods issue for a production order). To distinguish them, you can use a different account grouping code for withdrawal from your own stocks than for withdrawals from consignment stock.

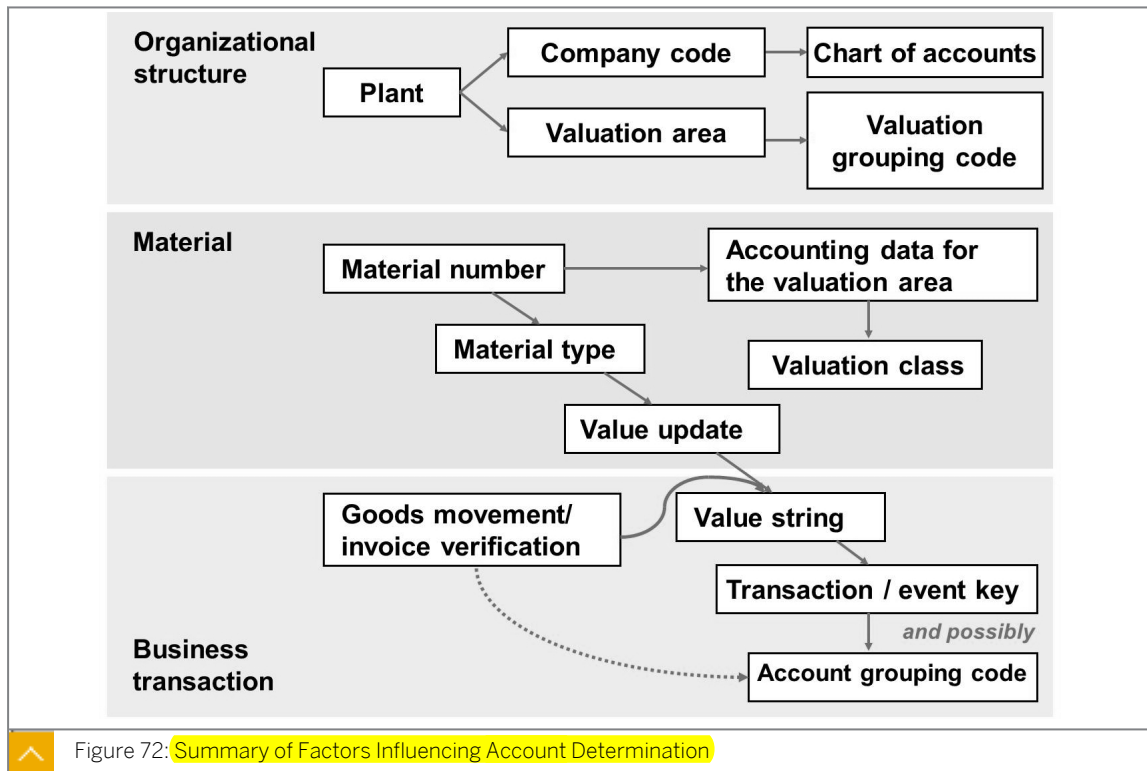**Summary of Factors Influencing Account Determination**

Figure 72: Summary of Factors Influencing Account Determination

The figure summarizes all the factors influencing automatic account determination.

The following system parameters (influencing factors) need to be considered when setting up automatic account determination:

- The chart of accounts of the company code

- The valuation grouping code of the plant or company code

- The valuation class of the material

- The transaction/event key from the value string, possibly with the account grouping code

Assign the G/L accounts for your business processes in MM according to these parameters.

How to Configure Account Determination for Transactions with Account Modification
Demonstrate how customers can adjust an SAP system to meet their company's requirements.

1. Show the most important Customizing settings for the individual slides and associated details in the application. Use the relevant exercises as a guide.

Use the Account Grouping Code

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Business Example

While checking various business transactions in the system, you noticed that when booking various goods withdrawals, not every goods issue for your example material was posted to the same expense account. You want to closely analyze the options for assigning different accounts, depending on the movement type.

Determine how you can use account grouping codes to assign different G/L accounts to different transactions.

Familiarize yourself with the term account grouping code. Set up automatic account determination for transactions by using an account grouping code.

1. In contrast to the receipt and issue postings to a stock account that are clearly defined in business terms, the offsetting entries can be made to different expense and revenue accounts. How are the offsetting entries made in the SAP system?

2. Which account grouping code is used for the offsetting entry to a stock posting in the case of goods issues for a cost center?

> Hint:
> In this and the next tasks, process only settings for goods withdrawals from your company's valuated stock – that is, entries for which the indicators for value and quantity update have been set and no special stock indicator has been set.

3. Are there any other transactions with this movement type for which an account grouping code is defined?

   _____

   _____

   _____

4. Assign consumption account **400550** for the offsetting entry to the stock posting for goods issues with movement type 201 (goods issue for cost center) for materials with the valuation class **VC##** — for both debit and credit postings. Post goods issues in plant 1000 and withdrawals in plant TR## to account **400550**. Consumption of raw materials with valuation class 3000 in the case of withdrawals for the cost center in plant TR##, on the other hand, needs to be managed in account **400080**.

5. Assign expense account **231000** (debit posting) and revenue account **281000** (credit posting) for price differences that may arise when a goods or invoice receipt is posted against a PO for materials with valuation class **VC##**.

Which account grouping code must you use in this case?

_____

_____

_____

6. Optional:

   Assign expense account **231500** (debit posting) and revenue account **281500** (credit posting) for price differences that may arise when a goods issue is posted with movement type 201 (goods issue for cost center) for materials with valuation class **VC##**.

7. Check the automatic account determination process by using the simulation function. Simulate a goods issue for a cost center (movement type **201**) for your material with valuation class **VC##** in plant **1000**.

   Stock posting (BSX): _____

   Offsetting entry (GBB): _____

   Price differences (PRD): _____

8. Post a goods issue of **2** pc of your material with valuation class **VC##** from plant **1000**, storage location **0001**, for cost center **1000**.

9. Create a PO for your material with valuation class **VC##**. Order **10** pieces for plant **1000**. Use item category Standard and the price **EUR 12**.

   Post the GR for this PO item and look at the accounting document. To which account was the price difference posted?

Use the Account Grouping Code

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Business Example

While checking various business transactions in the system, you noticed that when booking various goods withdrawals, not every goods issue for your example material was posted to the same expense account. You want to closely analyze the options for assigning different accounts, depending on the movement type.

Determine how you can use account grouping codes to assign different G/L accounts to different transactions.

Familiarize yourself with the term account grouping code. Set up automatic account determination for transactions by using an account grouping code.

1. In contrast to the receipt and issue postings to a stock account that are clearly defined in business terms, the offsetting entries can be made to different expense and revenue accounts. How are the offsetting entries made in the SAP system?

   a) Using the transaction *Offsetting Entry to Stock Posting*, the accounts are assigned based on the account grouping code. This code is assigned to the movement types (considering further dependencies, such as, the special stock indicator).

2. Which account grouping code is used for the offsetting entry to a stock posting in the case of goods issues for a cost center?

   > Hint:
   > In this and the next tasks, process only settings for goods withdrawals from your company's valuated stock – that is, entries for which the indicators for value and quantity update have been set and no special stock indicator has been set.

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Define Account Grouping for Movement Types*.

   b) The movement type for a goods issue to cost centers is **201**. In the *Change View "Account Grouping": Overview* screen, place the cursor on the row with the following data:

Field Name or Data Type	Value
Movement Type	*201*
Value Update	Selected
Qty update	Selected

Field Name or Data Type	Value
Special Stock	Deselected

c) Choose the *Position* pushbutton.

d) In the *Another entry* dialog box, enter the following data:

Field Name or Data Type	Value
Movement Type	**201**
Value Update	**X**
Qty update	**X**

e) The account grouping code for the offsetting entry (GBB) is *VBR*.

3. Are there any other transactions with this movement type for which an account grouping code is defined?

---

4. Assign consumption account **400550** for the offsetting entry to the stock posting for goods issues with movement type 201 (goods issue for cost center) for materials with the valuation class **VC##** — for both debit and credit postings. Post goods issues in plant 1000 and withdrawals in plant TR## to account **400550**. Consumption of raw materials with valuation class 3000 in the case of withdrawals for the cost center in plant TR##, on the other hand, needs to be managed in account **400080**.

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

c) Choose the *Account Assignment* pushbutton.

d) On the *Configuration Accounting Maintain: Automatic Posts - Procedures* screen, choose transaction *GBB*.

e) Choose the *New Entries* pushbutton.

The following new entries appear with transaction/event key GBB that includes the valuation grouping codes **0001** and **VG##** and account grouping code **VBR**:

Valuation Grouping Code	Account Grouping Code	Valuation Class	Debit	Credit
0001	**VBR**	**VC##**	**400550**	**400550**
VG##	**VBR**	**3000**	**400080**	**400080**
VG##	**VBR**	**VC##**	**400550**	**400550**

f) Save your entries.

5. Assign expense account **231000** (debit posting) and revenue account **281000** (credit posting) for price differences that may arise when a goods or invoice receipt is posted against a PO for materials with valuation class **VC##**.

   Which account grouping code must you use in this case?

   a) The account grouping code blank is predefined for goods or invoice receipts against a PO. In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the *Valuation grouping code not defined for valuation area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Account Assignment* pushbutton.

   d) On the *Configuration Accounting Maintain: Automatic Posts - Procedure*s screen, choose transaction *PRD*.

   e) On the *Configuration Accounting Maintain: Automatic Posts - Accounts* screen, choose the *New Entries* pushbutton. Add a new entry with the following data:

Field Name or Data Type	Value
Valuation Class	**VC##**
Debit	**231000**
Credit	**281000**
Account Grouping Code	Blank

   f) Save your entries.

6. Optional:

   Assign expense account **231500** (debit posting) and revenue account **281500** (credit posting) for price differences that may arise when a goods issue is posted with movement type 201 (goods issue for cost center) for materials with valuation class **VC##**.

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Account Assignment* pushbutton.

   d) In the *Configuration Accounting Maintain: Automatic Posts - Procedures* screen, choose transaction *PRD*.

   e) In the *Configuration Accounting Maintain: Automatic Posts - Accounts* screen, choose the *New Entries* pushbutton. Add a new entry with the following data:

Field Name or Data Type	Value
Valuation Class	`VC##`
Debit	`231500`
Credit	`281500`
Account Grouping Code	`PRA`

f) Save your entries.

7. Check the automatic account determination process by using the simulation function. Simulate a goods issue for a cost center (movement type `201`) for your material with valuation class `VC##` in plant `1000`.

Stock posting (BSX): _____

Offsetting entry (GBB): _____

Price differences (PRD): _____

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

c) Choose the *Simulation* pushbutton.

d) In the *Simulate Inventory Mgmt: Entry of Simulation data* screen, enter the following data:

Field Name or Data Type	Value
Plant	`1000`
Material	`200000###`
Movement Type	`201`

e) Choose the *Continue* pushbutton.

f) Select the *GI for cost center* pushbutton.

g) Choose the *Account Assignment* pushbutton.

The following data appears:

Description	Account
Stock posting (BSX)	*300000*
Offsetting entry (GBB VBR)	*400550*
Price differences (PRD)	*231500* and *281500*

> **Hint:**
> The system displays the price difference accounts only if you have made the optional setting in subtask 6.

8. Post a goods issue of **2** pc of your material with valuation class **VC##** from plant **1000**, storage location **0001**, for cost center **1000**.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement* (`MIGO`).

   b) Choose *Goods Issue* as the transaction and *Other* as the reference. On the *Where* tab page, enter the following data:

Field Name or Data Type	Value
Plant	**1000**
Storage Location	**0001**

   c) On the *Quantity* tab page, enter the following data:

Field Name or Data Type	Value
Qty in Unit of Entry	**2**

   d) On the *Material* tab page, enter the following data:

Field Name or Data Type	Value
Material	**200000###**

   e) On the *Account Assignment* tab page, enter the following data:

Field Name or Data Type	Value
Cost Center	**1000**

   f) Choose the *Post* pushbutton.

   g) Choose *Display* as the transaction and *Material Document* as the reference. Choose the *Execute* pushbutton.

   View the accounting document for your material document and check the account determination for valuation class **VC##**.

Description	Account
Stock posting (BSX)	*300000*
Offsetting entry (GBB VBR)	*400550*

9. Create a PO for your material with valuation class **VC##**. Order **10** pieces for plant **1000**. Use item category Standard and the price **EUR 12**.

   Post the GR for this PO item and look at the accounting document. To which account was the price difference posted?

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known* (`ME21N`).

   b) On the *Create Purchase Order* screen, enter the following data:

Field Name or Data Type	Value
Material	**200000###**
PO Quantity	**10**
Plnt	**1000**
Net Price	**12**
Currency	**EUR**
Vendor	**T-K500C##**

c) For the GR, on the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Follow-On Functions → Goods Receipt* (`MIGO`).

d) Choose *Goods Receipt* as the transaction and *Purchase Order* as the reference. Post the GR for your PO.

e) Choose *Display* as the transaction and *Material Document* as the reference.

View the accounting document for your material document and check the account determination for valuation class **VC##**.

Description	Account
Stock posting (BSX)	*300000*
GR/IR clearing (WRX)	*191100*
Price differences (PRD)	*231000*

LESSON SUMMARY
You should now be able to:

- Use the account grouping code

Adjusting Account Determination for Special Cases

LESSON OVERVIEW

This lesson introduces account determination for postings involving planned delivery costs and the available options to specify a default account for purchasing document items with account assignment. This lesson also explains account determination for tax accounts when posting invoices.

Show the account determination process for additional posting items in the case of planned delivery costs, first using an example and then in Customizing (depending on the time available).

Define one or two valuation classes that are not assigned to an account category reference and that are intended for material groups (such as chemicals and office supplies). Assign the general ledger (G/L) accounts 400444 and 400666 for debit and credit to these two valuation classes under GBB with VBR.

> **Note:**
> You may have to maintain the account names in your language. Assign your new valuation classes to the material groups Chemicals and Office Supplies. Enter two purchase order (PO) items with account assignment. The account assignment category is K.

Business Example

Case 1

In your company, delivery costs are often entered in purchasing documents. The members of your project team cannot agree whether the planned delivery costs are to be posted to a single account or different accounts upon receipt of goods.

Case 2

Your buyers and the employees responsible for entering requisitions or purchase orders (POs) in the user departments would like the system to provide special accounts in the case of items with account assignment for various groups of materials.

Case 3

You want to understand how the system determines tax accounts while posting incoming invoices. For this reason, you require the following knowledge:

- An understanding of dependencies for a default account in purchasing

- An understanding of how to assign the accounts for planned delivery costs

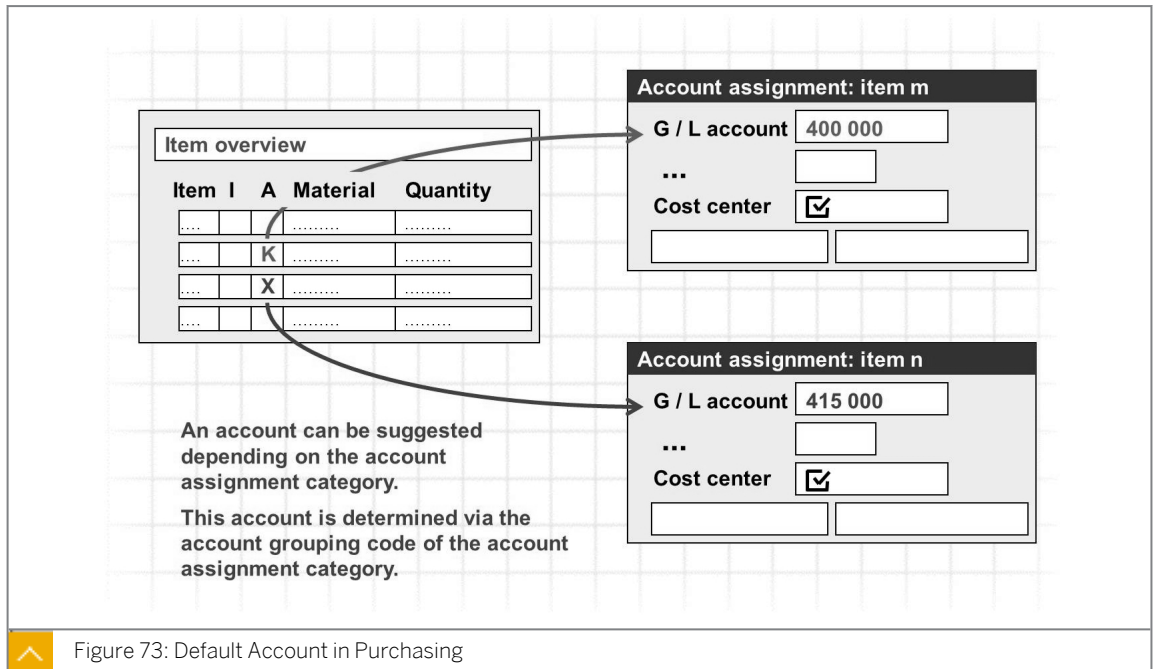- An understanding of dependencies for input tax accounts

LESSON OBJECTIVES
After completing this lesson, you will be able to:

- Adjust account determination for special cases

Default Account in Purchasing

Figure 73: Default Account in Purchasing

The transaction event key, GBB, and the account grouping code (account modification) of the account assignment category are used for automatic determination of the default account in purchasing documents. You can define further account assignment categories in Customizing for Purchasing and assign new account grouping codes to the categories. Assign the general ledger (G/L) accounts in the activity *Configure Automatic Postings*.

In the case of items with account assignment with a material master record, the system uses the valuation class from the accounting view of the material master. If the material master record does not contains a valuation class (for example, as is the case with material type NLAG), the program uses the valuation class for the material group, provided you have assigned a valuation class to the material group in Customization. If you have not assigned a valuation class, the system uses the ' ' (*blank*) valuation class.

In the case of items with account assignment without a material master record, the system uses the valuation class of the material group or the ' ' (*blank*) valuation class.

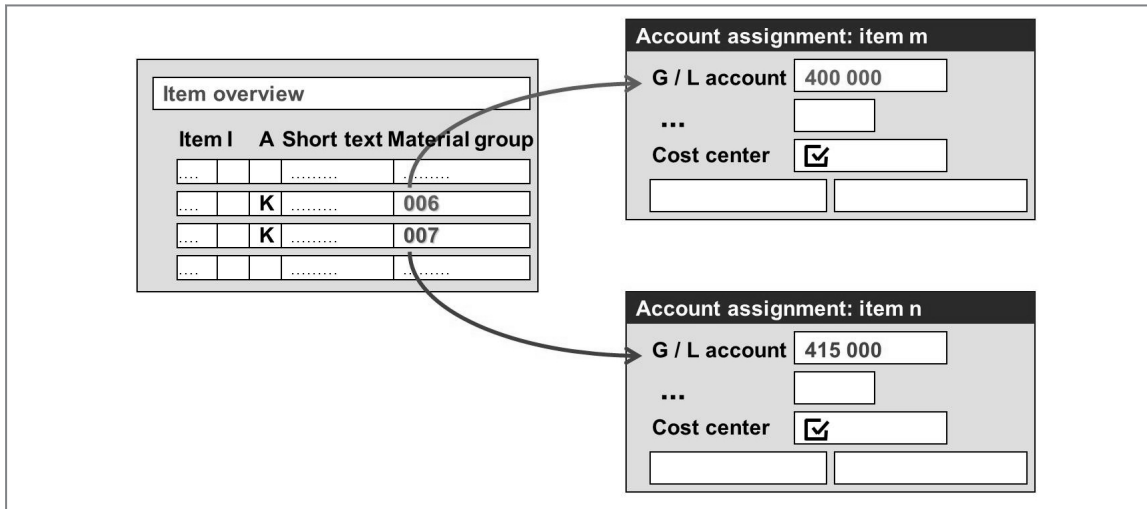### Default Accounts According to Material Groups

Figure 74: Default Accounts According to Material Groups

You can suggest an account for procurements without a material master, depending on the material group. The system identifies the accounts by using the valuation class of the material group.

The system uses the transaction/event key, GBB, and the account grouping code (account modification) of the account assignment category to determine the default account.

Assign a valuation class to the material groups in Customizing for *Purchasing* under *Entry Aid for Items Without Material Master*. The system then determines the account by using this class.

> Hint:
> The standard does not support the parameter ID SAK for the G/L account. If you want to pre-assign the G/L account, you can modify the field by activating the *SET/GET parameter* function for it.
>
> In Customizing for G/L accounts (transaction FS00), you can define an account assignment object default value (order or cost center) for each G/L account.

Accounts for Planned Delivery Costs

Business Process:		Accounting doc.:			
①	Goods receipt for purchase order into warehouse with planned freight costs	Item	PK	Account	Amount
		1	89	300 000	120,00
		2	96	191 100	100,00-
		3	50	192 100	20,00-
②	Invoice receipt for the freight costs planned in the purchase order	Item	PK	Account	Amount
		1	31	Vendor	22,00-
		2	40	192 100	20,00
		3	40	154 000	2,00

Figure 75: Example: Accounts for Planned Delivery Costs
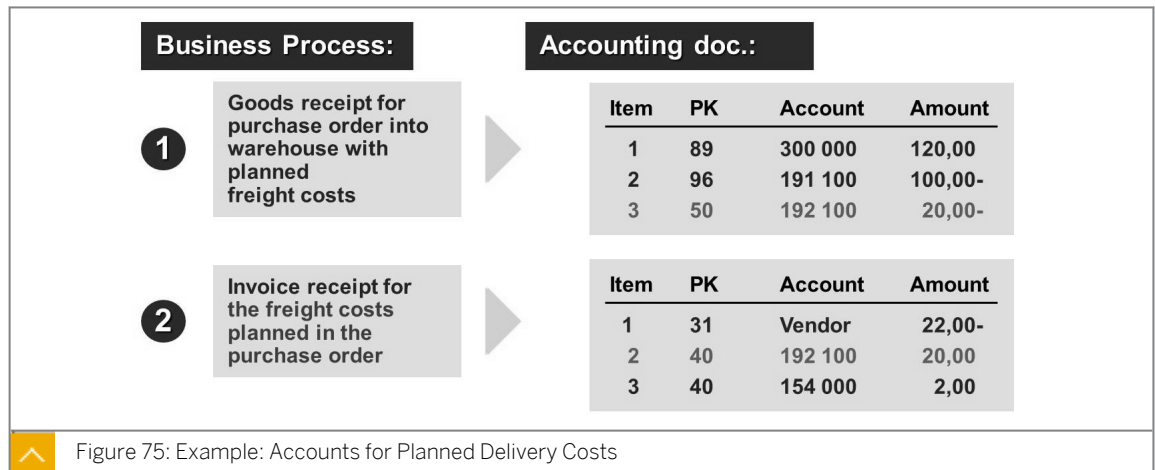
In the figure, PK is the abbreviation for the posting key.

You can plan delivery costs in various purchasing documents by using various condition types (for example, FRA1, FRB1, and FRC1).

For these condition types, it is specified in Customizing for *Purchasing* that the system is to post the planned delivery costs to a separate account (clearing account or provision account) upon receipt of goods.

Make the offsetting entry to this clearing or provision account when you enter the invoice for the planned delivery costs.

The figure is based on the following business processes:

- Enter a PO with the amount EUR 100 for a stock material valuated at the moving average price. Enter EUR 20 as the planned freight cost.

- In step one of the figure, the goods receipt (GR) is entered and posted. The total amount of EUR 120 (value of the good + planned delivery costs) is posted to the stock account.

  The offsetting entries are split. EUR 100 for the value of the material is posted to the GR/IR clearing account, and EUR 20 for the planned delivery costs is posted to a freight clearing account.

- In step two of the figure, the freight invoice is posted, which in this example is billed by another vendor than the goods item.

  The invoice value of EUR 22 (EUR 20 + 10% VAT) is posted to the vendor account. The system debits EUR 20 from the freight clearing account and posts EUR 2 to an input tax account.

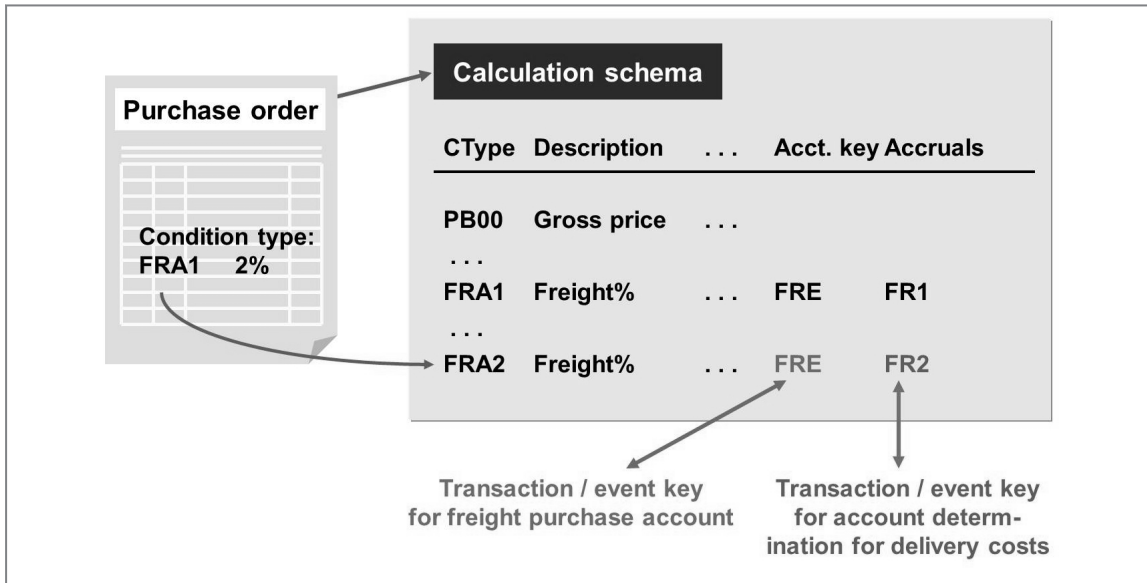### Determination of Accounts for Delivery Costs

Figure 76: Determination of Accounts for Delivery Costs

The transaction/event keys (account keys) for delivery cost postings come from the calculation schema for purchasing and not from the value string. If required, you can define further account keys for new condition types in Customizing for price determination and use them for additional clearing or provision accounts.

Account Key in Purchasing

Figure 77: Account Key in Purchasing

The figure is from the Implementation Guide and displays the details of the calculation schema for purchasing.

The figure only contains a few selected condition types of the standard calculation schema. Before you can assign new provision keys for posting the planned delivery costs, you first have to define them in a separate Customizing activity.

In Customizing, go to *Materials Management->Purchasing → Conditions → Define Price Determination Process → Define Transaction/Event Keys*.

Unplanned Delivery Costs
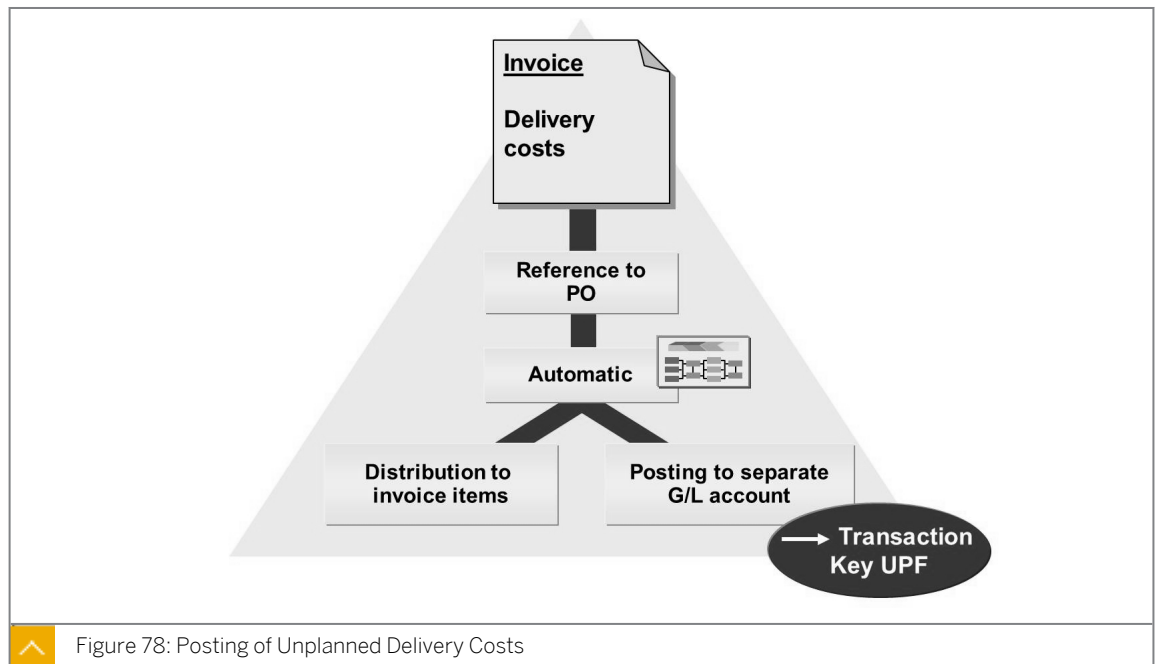
Figure 78: Posting of Unplanned Delivery Costs

In contrast to planned delivery costs, unplanned delivery costs are unknown at the time a PO is placed.

For example, as International Commercial terms (incoterm), you have agreed on Carriage paid packing with the vendor. The invoice, therefore, lists packing costs. You enter packing costs in the invoice header.

In Customizing for logistics invoice verification, define how these costs are to be handled. By default, the costs are distributed among the invoice items.

However, you can define that the unplanned delivery costs are posted to a special G/L account. In this case, define a G/L account for transaction UPF in the account determination table.

In Customizing, go to *Materials Management->Logistics Invoice Verification → Incoming Invoice → Configure How Unplanned Delivery Costs Are Posted*.

Tax Accounts and Other Transactions in Invoice Verification
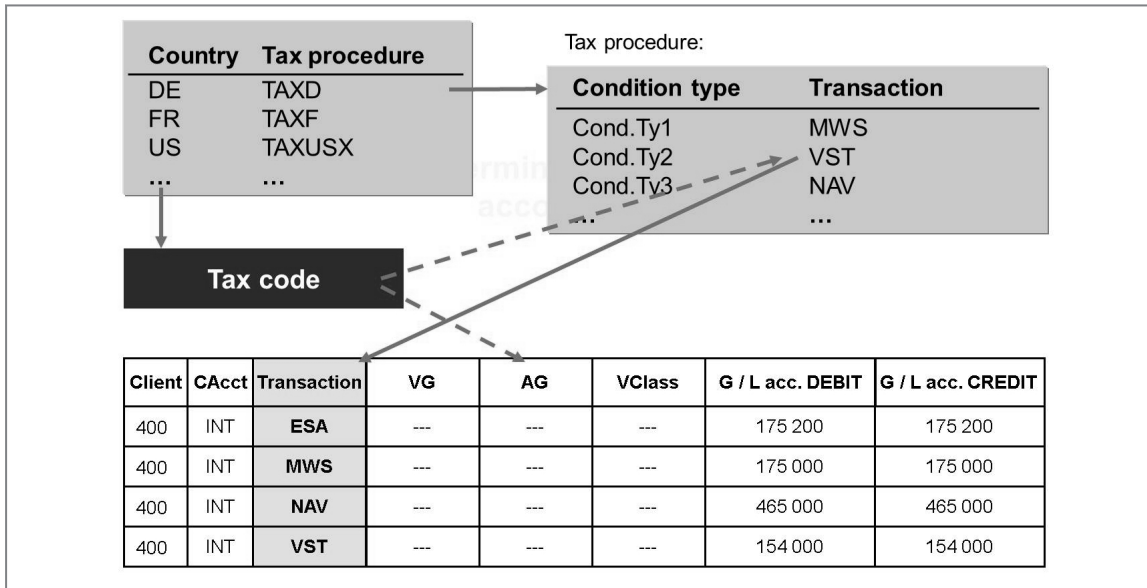
Figure 79: Tax Accounts

In Customizing for Financial Accounting, assign a tax determination procedure to the country in which your company code is located. This procedure provides various condition types for calculating the tax amounts and transaction keys for tax accounts.

Example of a Tax Determination Procedure

Figure 80: Example of a Tax Determination Procedure

The figure is from the Implementation Guide and shows a tax determination procedure with condition types and assigned account keys (transactions).

Maintenance of Tax Codes

Figure 81: Maintaining Tax Codes

By specifying the country (with reference to the tax determination procedure), you define your tax code. Assign the tax rate to a condition type and an account key.

Rules for the Assignment of Tax Accounts

Figure 82: Rules for the Assignment of Tax Accounts

When assigning G/L accounts for tax postings (for example, tax accounts), specify rules to set the dependency on the tax code.

How to Configure Default Accounting

Demonstrate how customers can adjust an SAP system to meet their company's requirements.

1. Show the most important Customizing settings for the individual slides and associated details in the application. Use the relevant exercises as a guide.

Adjust Account Determination for Special Cases

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Business Example

Your company requires that delivery costs be included in the valuation of materials. Therefore, plan for the anticipated delivery costs in POs, wherever possible, and post them to special accounts at the time of goods receipt.

In addition, the user departments create many requisitions for consumable materials and services. You want to check if using suitable default accounts can simplify the creation of requisitions.

Determine the account for planned delivery costs and the dependencies for a default account in purchasing.

Task 1

Change the default account in Purchasing.

1. Extend your last PO. Add an item with account assignment for your material with valuation class **VC##**. Order **10** pieces (pc) for plant **1000**.

    Use item category Standard and the account assignment category **K**. Enter cost center **1000** as the (preliminary) account assignment.

    Does the system suggest a G/L account for consumption posting?

Task 2

Determine the account for freight costs.

1. A purchaser asks you about the difference between the condition types FRB1 and FRB2 because both types have the same text.
   Explain the difference for calculation schema RM0000 and the chart of accounts, INT.

Task 3

Enhance your knowledge of default accounts in purchasing. Check the following statements on the expense account that is to be provided by the SAP system as the default value in requisition and PO items with account assignment.

Decide which statements are true. Give reasons for your answers.

1. The default account in purchasing can vary, depending on the account assignment category that is used.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

2. In purchasing, the system determines a default account only for items with a material number.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

3. The default account in purchasing depends on the material group from the material master record.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

4. The system provides only a single account for items without a material master record.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

5. For items without a material master record, the system provides an account, based on the material group of the item.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

187 Adjust Account Determination for Special Cases

Business Example

Your company requires that delivery costs be included in the valuation of materials. Therefore, plan for the anticipated delivery costs in POs, wherever possible, and post them to special accounts at the time of goods receipt.

In addition, the user departments create many requisitions for consumable materials and services. You want to check if using suitable default accounts can simplify the creation of requisitions.

Determine the account for planned delivery costs and the dependencies for a default account in purchasing.

Task 1

Change the default account in Purchasing.

1. Extend your last PO. Add an item with account assignment for your material with valuation class **VC##**. Order **10** pieces (pc) for plant **1000**.

   Use item category Standard and the account assignment category **K**. Enter cost center **1000** as the (preliminary) account assignment.

   Does the system suggest a G/L account for consumption posting?

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Change* (ME22N).

   b) On the *Display Purchase Order* screen, enter the following data:

Field Name or Data Type	Value
Account Assignment Category	**K**
Material	**200000###**

   The G/L account default needs to be *400550*.

Task 2

Determine the account for freight costs.

1. A purchaser asks you about the difference between the condition types FRB1 and FRB2 because both types have the same text.

   Explain the difference for calculation schema RM0000 and the chart of accounts, INT.

   a) In Customizing, go tor *Materials Management->Purchasing → Conditions → Define Price Determination Process → Define Calculation Schema*.

b) On the *Change View "Schemas": Overview* screen, select schema *RM0000* and choose *Control data*.

You see the following difference in the account key in the *Accruals* field:

Condition Type	Account Key
FRB1	*FR1*
FRB2	*FR2*

You see the implications of this in the next step.

c) In Customizing, go to *Materials Management->Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings*.

d) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

e) Choose the *Account Assignment* pushbutton.

f) On the *Configuration Accounting Maintain: Automatic Posts - Procedures* screen, select the row where the *Transaction* field has the value *FR1*.

g) In the *Enter Chart of Accounts* dialog box, enter the following data:

Field Name or Data Type	Value
Chart of Accounts	`INT`

The account for *FR1* is *192100*.

h) On the *Configuration Accounting Maintain: Automatic Posts - Procedures* screen, select the row where the *Transaction* field has the value *FR2*.

The account for *FR2* is *86100*.

Task 3

Enhance your knowledge of default accounts in purchasing. Check the following statements on the expense account that is to be provided by the SAP system as the default value in requisition and PO items with account assignment.

Decide which statements are true. Give reasons for your answers.

1. The default account in purchasing can vary, depending on the account assignment category that is used.

   Determine whether this statement is true or false.

   [X] True

   [ ] False

   ==You can assign different account grouping codes to the account assignment categories, except for the account assignment categories A (Asset) and U (Unknown). Depending on the account grouping code (and other influencing factors), the system assigns different accounts.==

2. In purchasing, the system determines a default account only for items with a material number.

   Determine whether this statement is true or false.

   [ ] True

   [X] False

   ==For items with a material number, the system determines the default account with the valuation class from the material master record (and other influencing factors). For materials without a valuation class (for example, materials of material type NLAG), the system uses the ' ' (*blank*) valuation class. The system applies this class or the valuation class of the material group during account determination for items without a material number.==

3. The default account in purchasing depends on the material group from the material master record.

   Determine whether this statement is true or false.

   [ ] True

   [X] False

   The default account in requisitions or PO items with account assignment and a material number depends on the valuation class of the material (and other influencing factors), not on the material group. However, you can assign the valuation classes, based on the material group.

4. The system provides only a single account for items without a material master record.

   Determine whether this statement is true or false.

   ☐ True

   ☒ False

   For items without a material number, you can assign a default account with the ' ' (*blank*) valuation class or use the option of assigning the default accounts, depending on the material group.

5. For items without a material master record, the system provides an account, based on the material group of the item.

   Determine whether this statement is true or false.

   ☒ True

   ☐ False

   In this case, assign valuation classes to the material groups that the system uses in Customizing for purchasing. The system then assigns the default accounts, depending on these valuation classes (and other influencing factors).

LESSON SUMMARY
You should now be able to:

- Adjust account determination for special cases

📖 Adjusting Settings for Split Valuation

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LESSON OVERVIEW

This lesson explains how to configure split valuation for materials.

> ℹ️ The split valuation of materials offers a number of advantages for a company. However, if you are thinking of using this functionality, you must also be aware of the disadvantages of split valuation (For example, increased data-maintenance effort and the possibility of problems in costing and materials planning).

Business Example

There are situations where an organization has to valuate a material at different prices, based on different criteria (for example, origin). You want to investigate whether the valuation is possible without using different material numbers. For this reason, you require the following knowledge:

- An understanding of valuation categories and valuation types

- An understanding of the attributes of valuation categories and valuation types

- An understanding of the importance of taking new valuation areas and account determination into account for split valuation

🖥️ LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Adjust the settings for split valuation

Settings for Split Valuation

In the split valuation of materials, you can valuate different stocks of a material differently within a valuation area. You can also assign different accounts for stock and consumption postings (for example, you can differentiate them according to the procurement types – external procurement or in-house production).

Before applying split valuation to stocks of selected materials, weigh the pros and cons of split valuation. The principal disadvantage of split valuation is the additional work involved. For example, when posting a goods issue, you need to always specify the partial stock from which you withdraw the material.

If you decide to use split valuation in your company, set the *Split Valuation of Materials* indicator to active. Setting the *Split Valuation of Material* indicator does not mean that you have to apply split valuation to every material. You decide whether or not you wish to apply split valuation to a material each time you create a material master record.

Specify the criteria according to which you want to differentiate between various partial stocks of materials. Subdivide a stock of materials, based on the valuation category and the

valuation type. Define valuation categories, the associated valuation types, and further indicators in Customizing.

> **Hint:**
> You can only define split valuation for a material if no stocks or open documents exist.

Split Valuation

Figure 83: Split Valuation
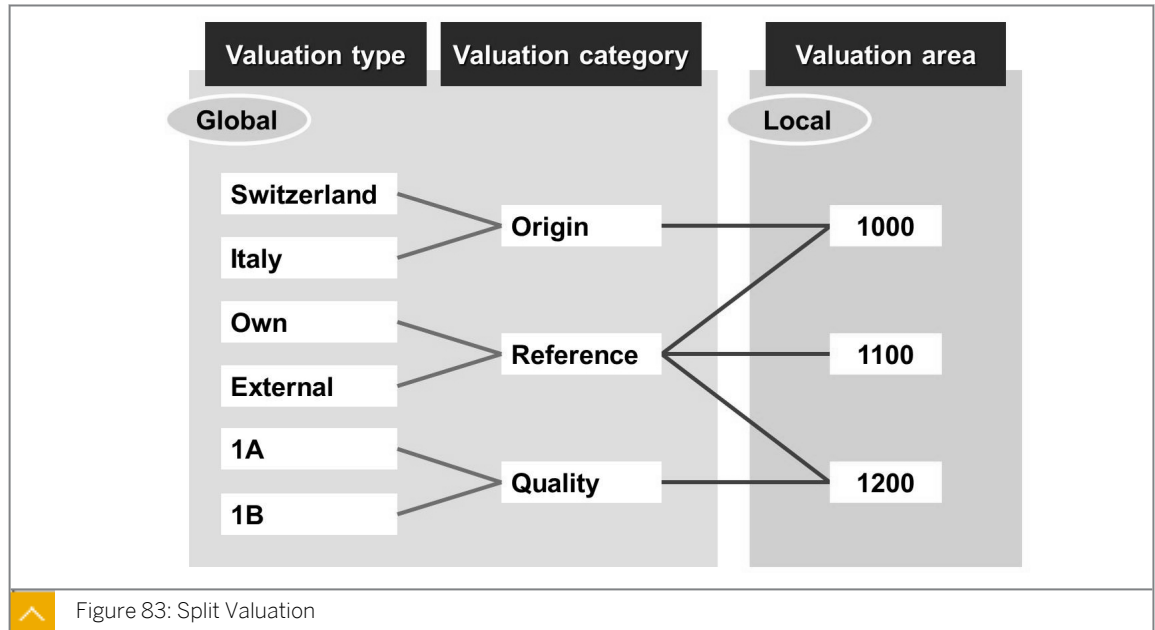
You can separately valuate different stocks of a material only if split valuation is active. If you wish to enable split valuation for a material, enter a valuation category in the accounting data for the material. The entry of a valuation category stipulates which valuation types you can specify. A valuation type characterizes one of the possible partial stocks for a valuation category.

Specify the default valuation types for every valuation category for the purchasing and production transactions. You can then specify the default values when you, for example, create a purchase order (PO) for a material, subject to split valuation.

Specify the valuation categories and valuation types globally, that is, independently of the valuation area (these categories and types are valid client wide).

> **Hint:**
> You do not have to enter a valuation type at the time of creating a PO. If you do not enter a valuation type, you must enter it upon goods receipt. If you enter a valuation type when you create a PO, you can only post the goods receipt for this valuation type; you cannot change it.

Assignment of Valuation Categories to Valuation Areas

Figure 84: Assignment of Valuation Categories to Valuation Areas

<mark>You must assign the allowed valuation categories to valuation areas.</mark> This assignment makes the category-related data (in particular, also the valuation types you assign to this category) valid locally. You can locally change the attributes of valuation categories and types.

The figure is from the SAP system Customizing and shows the assignment of valuation categories to a valuation area.

Only valuation categories B, C, and H can be subject to split valuation in plant 1000.

Attributes of Valuation Categories and Types
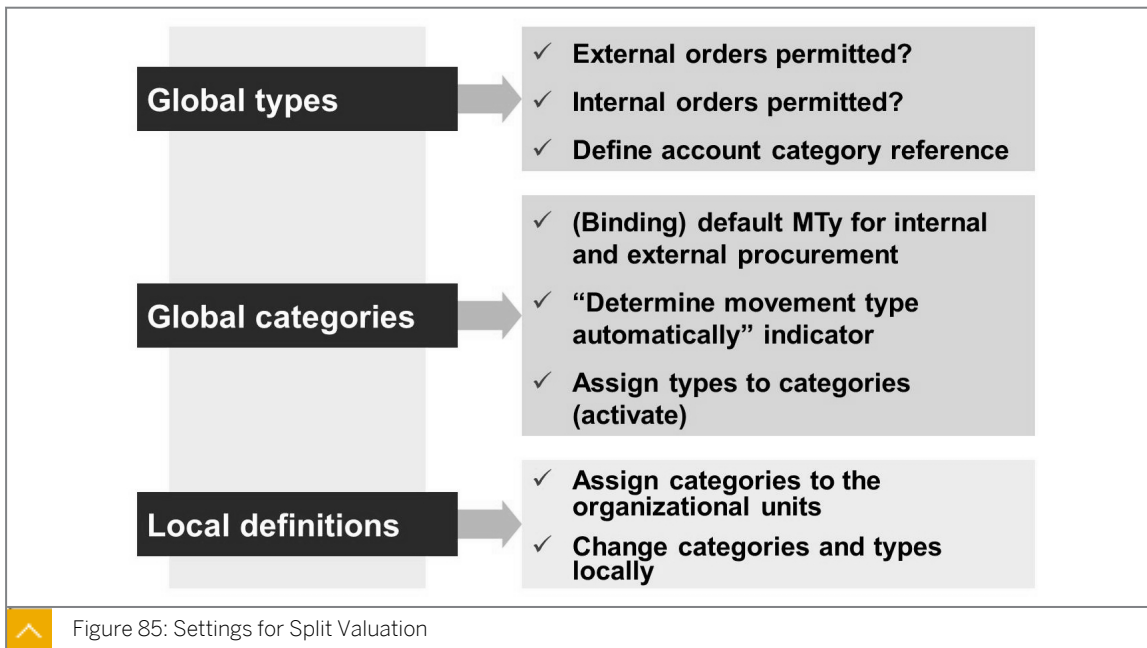
Figure 85: Settings for Split Valuation

When you assign a valuation category to an organizational unit (such as a plant), the system automatically assigns all the valuation types that are active (for this category) to the organizational unit.

Locally, you can only change the default values for external and internal procurement and the account category reference. You cannot create a valuation type for only one plant or exclude a valuation type for specific plants.

Specify an account category reference for a valuation type. When you create a master record of this valuation type, choose one of the valuation classes allowed for this reference. The system carries out the account determination process for valuation type transactions relevant to Financial Accounting by applying the valuation class of this valuation type record and not the class of the material.

By setting the *Determine Valuation Type Automatically* indicator for a valuation category, the system automatically creates a valuation record for the valuation type when you post the first GR for that valuation type. Such a valuation category makes sense only for materials subject to a batch management requirement (individual batch valuation).

Global and Local Specifications for Valuation Types

Figure 86: Global and Local Specifications for Valuation Types

The figure is from the Implementation Guide, and it shows that you can set different indicators for the valuation types for a valuation area.

Structure of Split Valuation

Figure 87: Structure of Split Valuation
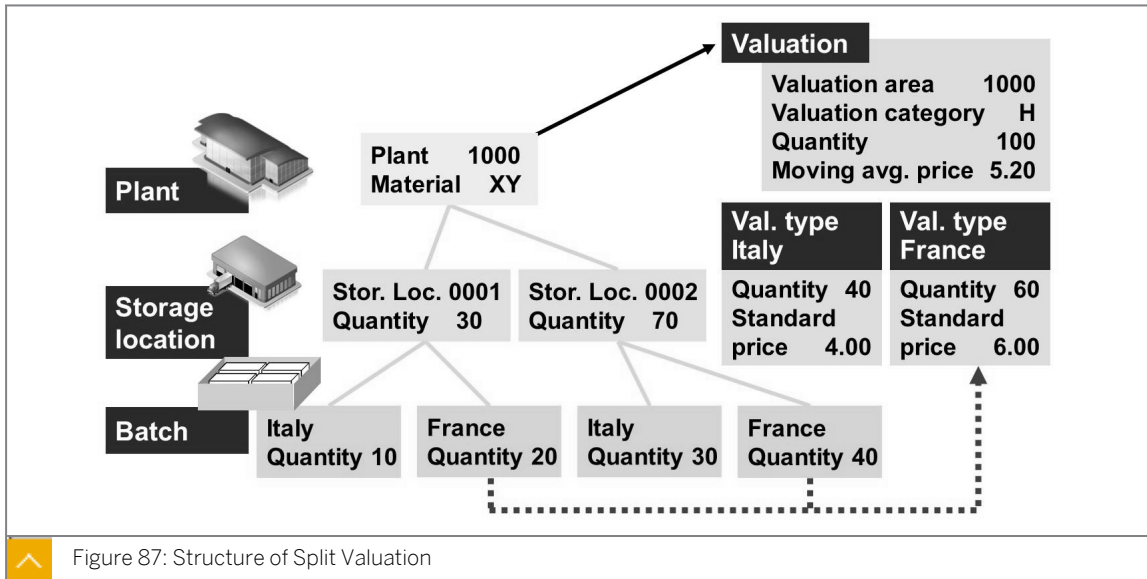
If you specify split valuation for a material in a valuation area, create additional accounting data manually (or possibly automatically) for each partial stock (that is, for each valuation type).

At the level of a valuation area, use price control V for a material subject to split valuation. For each valuation type, use either price control V or price control S.

In the case of goods movements involving materials subject to split valuation, also specify the valuation type (either directly or indirectly). By specifying the valuation type, you stipulate which partial stock increases or decreases.

You can use split valuation for the materials managed in batches. For such materials, specify whether each batch represents a valuation type (individual batch valuation) by setting the *Determine Valuation Type Automatically* indicator. Do not set this indicator if the batch management requirement is independent of split valuation. If the batch management requirement is independent of split valuation, assign multiple batches to the same valuation type. You can see the assignment of the valuation type to a batch in the batch master record.

How to Configure Split Valuation
Demonstrate how customers can adjust an SAP system to meet their company's requirements.

1. Show the most important Customizing settings for the individual slides and associated details in the application. Use the relevant exercises as a guide.

Adjust Settings for Split Valuation

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Business Example

An analysis in your company has shown that the materials you previously valuated separately, based on two different countries of origin, can be procured from a third country. You need to make the necessary Customizing settings for this country.

You can only externally procure materials from this country of origin. The account determination process has to be the same as the account determination process for raw materials.

Check the settings for split valuation and define new valuation types.

Task 1

Look at the current Customizing settings for split valuation. Define a new valuation type for valuation category *Origin*.

1. Which valuation types are active for valuation category *Origin*?

2. Create the general valuation type **COUNTRY##** for the new country of *Origin* (globally).

   Which values do you enter in the following parameters or fields, based on the given scenario?

Valuation Type	Country of Origin
Ext. Purchase Orders	
Int. purchase orders	
Account cat. reference	

3. Assign your new valuation type to valuation category *Origin*. Choose the global assignment of types to valuation category *Origin* and activate valuation type *COUNTRY##*.

4. Are any other settings necessary at the local level to use valuation type *COUNTRY##* in plant *1000*?

Task 2

Test your settings.

1. Check if material **R-M1##** in plant **1000** with valuation category H is split-valuated.

   For which valuation types does the system maintain accounting data?

2. Make a note of the total stock, total value, and the moving average price for plant *1000* and the existing valuation types.

Org. Level	Quantity	Value	Unit Price
Plant 1000			
Domestic			
Foreign			

3. Extend material **R–M1##** by adding the accounting data in plant **1000** for valuation type COUNTRY##. Enter price control V and a moving average price of **EUR 520.00** per piece. Assign valuation class **3000**.

4. Make an initial stock balance entry, quantity **3** pieces for valuation type **COUNTRY##** for your material **R–M1##** in plant **1000** and storage location **0001**. Use movement type **561**.

   Material document number: _____

   Look at the material document, the accounting document, and the data of the *Accounting 1* view for material **R–M1##** in plant *1000* and valuation type *COUNTRY##*.

   With which value was the stock account updated?

Adjust Settings for Split Valuation

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Business Example

An analysis in your company has shown that the materials you previously valuated separately, based on two different countries of origin, can be procured from a third country. You need to make the necessary Customizing settings for this country.

You can only externally procure materials from this country of origin. The account determination process has to be the same as the account determination process for raw materials.

Check the settings for split valuation and define new valuation types.

Task 1

Look at the current Customizing settings for split valuation. Define a new valuation type for valuation category *Origin*.

1. Which valuation types are active for valuation category *Origin*?

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Split Valuation → Configure Split Valuation*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Global Categories* pushbutton.

   d) Choose the row in which the *Valuation Category Description* field has the value *Origin*.

   e) Choose the *Types → Cat.* pushbutton.

   The active valuation types for the selected category are *INLAND*, *AUSLAND*, *COUNTRY A*, and *COUNTRY B*. Other valuation types may also be displayed.

2. Create the general valuation type **COUNTRY##** for the new country of *Origin* (globally).

   Which values do you enter in the following parameters or fields, based on the given scenario?

Valuation Type	Country of Origin
Ext. Purchase Orders	
Int. purchase orders	
Account cat. reference	

   a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Split Valuation → Configure Split Valuation*.

   b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

   c) Choose the *Global Types* pushbutton.

d) Choose the *Create* pushbutton.

e) On the *Create Valuation Type* screen, enter the following data:

Valuation Type	Country of Origin
Ext. Purchase orders	2
Int. purchase orders	0
Account cat. reference	0001

f) Choose the *Create* pushbutton again.

g) Save your entries.

3. Assign your new valuation type to valuation category *Origin*. Choose the global assignment of types to valuation category *Origin* and activate valuation type *COUNTRY##*.

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Split Valuation → Configure Split Valuation*.

b) If the *Valuation Area* dialog box appears, choose the *Cancel* pushbutton.

c) Choose the *Global Categories* pushbutton.

d) On the *Global Valuation Categories* screen, choose the row in which the *Valuation Category Description* field has the value *Origin*.

e) Choose the *Types → Cat.* pushbutton.

f) Choose the row in which the *Valuation Type* field has the value *COUNTRY##*.

g) Choose the *Activate* pushbutton.

4. Are any other settings necessary at the local level to use valuation type *COUNTRY##* in plant *1000*?

a) In Customizing, go to *Materials Management->Valuation and Account Assignment → Split Valuation → Configure Split Valuation*.

b) Choose the *Local Definitions* pushbutton.

c) Choose the row in which the *Plant* field has the value *1000*.

d) Choose the *Local Types* pushbutton.

e) Position the cursor on *COUNTRY##* and choose the *Change* pushbutton.

No further settings are necessary. However, you can specify different indicators for the *Ext. Purchase Orders*, *Int. purchase orders*, and *Acct cat. reference* fields for plant *1000*.

Task 2

Test your settings.

1. Check if material **R-M1##** in plant **1000** with valuation category H is split-valuated.

For which valuation types does the system maintain accounting data?

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (`MM03`).

b) Look at the accounting data of the *Accounting 1* view for material **R-M1##** in plant *1000*.

Material R-M1## is split-valuated in plant *1000* with valuation category *H*.

c) Determine the valuation types that have been created, either using the *Org. Levels* pushbutton and the F4 help for the valuation type or the materials list.

On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Other → Materials List* (`MM60`).

d) On the *Materials List* screen, enter the following data:

Field Name or Data Type	Value
Material	**R-M1##**
Plant	**1000**

e) To view the accounting data for the valuation types *AUSLAND* (foreign) and *INLAND* (domestic), choose the *Execute* pushbutton.

2. Make a note of the total stock, total value, and the moving average price for plant *1000* and the existing valuation types.

Org. Level	Quantity	Value	Unit Price
Plant 1000			
Domestic			
Foreign			

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (`MM03`).

b) Look at the accounting data for material R-M1## for plant *1000* (*Accounting 1* view). Using the *Org. Levels* pushbutton, determine the quantities, prices, and values for the valuation types created.

Org. Level	Quantity	Value	Unit Price
Plant 1000	*7 pieces*	*EUR 3,500*	*EUR 500*
Domestic	*5 pieces*	*EUR 2,400*	*EUR 480*
Foreign	*2 pieces*	*EUR 1,100*	*EUR 550*

3. Extend material **R-M1##** by adding the accounting data in plant **1000** for valuation type COUNTRY##. Enter price control V and a moving average price of **EUR 520.00** per piece. Assign valuation class **3000**.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Create (General) → Immediately* (`MM01`).

b) Enter the material number **R-M1##**.

c) Choose the *Select View(s)* pushbutton.

d) In the *Select View(s)* dialog box, choose the row in which the value of the *View* field is *Accounting 1*.

e) Enter the following data:

Field Name or Data Type	Value
Plant	**1000**
Valuation Type	**COUNTRY##**
Price control	**V**
Average price	**EUR 520.00**
Valuation Class	**3000**

4. Make an initial stock balance entry, quantity **3** pieces for valuation type **COUNTRY##** for your material **R-M1##** in plant **1000** and storage location **0001**. Use movement type **561**.

Material document number: _____

Look at the material document, the accounting document, and the data of the *Accounting 1* view for material **R-M1##** in plant *1000* and valuation type *COUNTRY##*.

With which value was the stock account updated?

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement* (MIGO).

b) Choose *Goods Receipt* as the transaction, *Other* as the reference, and *561* as the default value for the movement type.

The accounting data for valuation type *COUNTRY##* for material **R-M1##** shows a stock figure of *3* pieces (*pc*) in plant *1000* and a total value of EUR *1,560*.

The accounting data for material **R-M1##** shows a stock figure that has increased by *3 pc* in plant *1000*. The total value increases by *EUR 1,560*. The moving average price has gone down.

The stock account is updated with the value *EUR 1,560*.

Your material **R-M1##** might show the following quantities and values:

Org. Level	Quantity	Value	Unit Price
Plant 1000	*10 pieces*	*EUR 5,060*	*EUR 506*
Domestic	*5 pieces*	*EUR 2,400*	*EUR 480*
Foreign	*2 pieces*	*EUR 1,100*	*EUR 550*
COUNTRY##	*3 pieces*	*EUR 1,560*	*EUR 520*

LESSON SUMMARY
You should now be able to:

- Adjust the settings for split valuation

Learning Assessment

1. Which account is determined from the vendor master record when you post an invoice in Logistics Invoice Verification?

   Choose the correct answer.

   ☐ **A** GR/IR clearing account

   ☐ **B** Bank account

   ☐ **C** Reconciliation account

   ☐ **D** Price difference account

2. Which of the following scenarios causes price difference postings?

   Choose the correct answer.

   ☐ **A** Valuated goods receipt (GR), material valuated at standard price of EUR 10, purchase order (PO) price is EUR 12

   ☐ **B** Valuated GR, material valuated at moving average price of EUR 10, PO is free of charge

   ☐ **C** Receipt per initial entry of stock balances into unrestricted-use stock, material is valuated at standard price of EUR 10, no external amount is entered

   ☐ **D** GR for consignment POs

3. Which postings are relevant for account determination?

   Choose the correct answers.

   ☐ **A** Transfer posting between two storage locations within a plant

   ☐ **B** Transfer posting between two plants

   ☐ **C** Transfer posting from unrestricted use stock to blocked stock

   ☐ **D** Transfer posting from consignment stock to your stock

4. Which movement types are relevant for account determination?

   Choose the correct answers.

   ☐ **A** 101 (Goods receipt (GR) for purchase order (PO) into warehouse)

   ☐ **B** 103 (GR for PO into GR blocked stock)

   ☐ **C** 105 (Release of GR blocked stock for warehouse)

   ☐ **D** 109 (GR from valuated blocked stock)

5. Which of the following items are valuation and account determination levels in materials management (MM)?

   Choose the correct answers.

   ☐ **A** Valuation area

   ☐ **B** Valuation type

   ☐ **C** Valuation section

   ☐ **D** Valuation group

6. From which organizational level is the chart of accounts determined?

   Choose the correct answer.

   ☐ **A** Plant

   ☐ **B** Client

   ☐ **C** Company Code

   ☐ **D** Valuation Area

7. What do you assign to plants that should have the same settings in account determination?

   Choose the correct answer.

   ☐ **A** Valuation type

   ☐ **B** Valuation class

   ☐ **C** Valuation modification

   ☐ **D** Valuation grouping code

8. What can you maintain in a material type for account determination?

   Choose the correct answer.

   ☐ **A** Valuation classes

   ☐ **B** Valuation grouping code

   ☐ **C** Account category reference

   ☐ **D** Account modification

9. Which of the following items are linked directly?

   Choose the correct answers.

   ☐ **A** Valuation class – Account category reference

   ☐ **B** Valuation class – Material type

   ☐ **C** Price control – Account category reference

   ☐ **D** Account category reference – Material type

10. On which levels can you assign valuation classes to material master records?

    Choose the correct answers.

    ☐ **A** Valuation area

    ☐ **B** Client

    ☐ **C** MRP area

    ☐ **D** Valuation type

11. A valuation class can be assigned to several account category references.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

12. Which application areas can you select in the account determination simulation?

    Choose the correct answers.

    ☐ **A** Payment transactions

    ☐ **B** Invoice verification transactions

    ☐ **C** Purchasing transactions

    ☐ **D** Inventory management movements

13. What is the posting key for stock postings?

    Choose the correct answer.

    ☐ **A** PRD

    ☐ **B** WRX

    ☐ **C** UMB

    ☐ **D** BSX

14. To which of the following items are value strings (posting rules) assigned?

    Choose the correct answer.

    ☐ **A** Movement types

    ☐ **B** Stock types

    ☐ **C** Valuation types

    ☐ **D** Material types

15. Which posting key occurs twice in a value string?

    Choose the correct answer.

    ☐ **A** WRX

    ☐ **B** BSX

    ☐ **C** UMB

    ☐ **D** PRD

16. Which transaction is relevant for account modification?

    Choose the correct answer.

    ☐ **A** BSX

    ☐ **B** GBB

    ☐ **C** UMB

    ☐ **D** WRX

17. Where can you assign account grouping codes?

    Choose the correct answers.

    ☐ **A** Material types

    ☐ **B** Movement types

    ☐ **C** Item categories

    ☐ **D** Account assignment categories

18. Value strings can be changed and extended in each company according to its requirements.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

19. In an SAP system, you can record the consumption of your materials and consignment materials in different cost elements.

    Determine whether this statement is true or false.

    ☐ True

    ☐ False

20. For which of the following items can you use default accounts in Purchasing?

    Choose the correct answers.

    ☐ **A** Purchasing groups

    ☐ **B** Material groups

    ☐ **C** Account assignment categories

    ☐ **D** Item categories

21. Which transaction is relevant for default accounts?

    Choose the correct answer.

    ☐ **A** BSX

    ☐ **B** WRX

    ☐ **C** PRD

    ☐ **D** GBB

22. Where can you define transaction/event keys for delivery costs?

    Choose the correct answer.

    ☐ **A** In account assignment

    ☐ **B** In inventory management

    ☐ **C** In logistics invoice verification

    ☐ **D** In purchasing

23. Which of the following statements are true about unplanned delivery costs in logistics invoice verification?

    Choose the correct answers.

    ☐ **A** They are posted to a price difference account.

    ☐ **B** They are posted to a certain stock account.

    ☐ **C** They are distributed among invoice items.

    ☐ **D** They are posted to a separate G/L account.

24. Which transaction is relevant for unplanned delivery costs?

    Choose the correct answer.

    ☐ **A** FR1

    ☐ **B** FRB

    ☐ **C** UMB

    ☐ **D** UPF

25. On which level can you define valuation types for split valuation?

    Choose the correct answer.

    ☐ **A** Client

    ☐ **B** Company code

    ☐ **C** Plant

    ☐ **D** Valuation area

26. On which level can you define split valuation for a material?

    Choose the correct answer.

    ☐ **A** Client

    ☐ **B** Purchasing organization

    ☐ **C** Valuation area

    ☐ **D** Storage location

27. The local definition of valuation types allows you to specify different settings for:

    Choose the correct answers.

    ☐ **A** Price control

    ☐ **B** Procurement types

    ☐ **C** Account category reference

    ☐ **D** Valuation currency

28. The general accounting view for a material with split valuation requires:

    Choose the correct answers.

    ☐ **A** A valuation category

    ☐ **B** Price control V (moving average price)

    ☐ **C** Price control S (standard price)

    ☐ **D** A valuation class

📖 Learning Assessment - Answers

1. Which account is determined from the vendor master record when you post an invoice in Logistics Invoice Verification?

   Choose the correct answer.

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   [ ] **D** 109 (GR from valuated blocked stock)

5. Which of the following items are valuation and account determination levels in materials management (MM)?

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   [X] **B** Valuation type

   [ ] **C** Valuation section

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6. From which organizational level is the chart of accounts determined?

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7. What do you assign to plants that should have the same settings in account determination?

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   [ ] **B** Valuation class

   [ ] **C** Valuation modification

   [X] **D** Valuation grouping code

8. What can you maintain in a material type for account determination?

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    Choose the correct answer.

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    Choose the correct answers.

    ☐ **A** Purchasing groups

    ☒ **B** Material groups

    ☒ **C** Account assignment categories

    ☐ **D** Item categories

21. Which transaction is relevant for default accounts?

    Choose the correct answer.

    ☐ **A** BSX

    ☐ **B** WRX

    ☐ **C** PRD

    ☒ **D** GBB

22. Where can you define transaction/event keys for delivery costs?

    Choose the correct answer.

    ☐ **A** In account assignment

    ☐ **B** In inventory management

    ☐ **C** In logistics invoice verification

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23. Which of the following statements are true about unplanned delivery costs in logistics invoice verification?

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24. Which transaction is relevant for unplanned delivery costs?

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☐ **A** FR1

☐ **B** FRB

☐ **C** UMB

☒ **D** UPF

25. On which level can you define valuation types for split valuation?

Choose the correct answer.

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☐ **B** Company code

☐ **C** Plant

☐ **D** Valuation area

26. On which level can you define split valuation for a material?

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☐ **B** Purchasing organization

☒ **C** Valuation area

☐ **D** Storage location

27. The local definition of valuation types allows you to specify different settings for:

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28. The general accounting view for a material with split valuation requires:

Choose the correct answers.

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[X] **B** Price control V (moving average price)

[ ] **C** Price control S (standard price)

[ ] **D** A valuation class

UNIT 4 Special Features of Material Valuation

Lesson 1

UNIT OBJECTIVES

- Create a PO and enter goods movements for nonvaluated material

📖 Exploring Material Types UNBW and NLAG

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LESSON OVERVIEW

This lesson explains how to use the SAP ERP application to manage the stock of materials on a quantity basis, but not on a value basis. This lesson also explains the features that are specific to these materials.

Business Example

The advertising department of your company is responsible for the procurement of promotional brochures and carries the costs incurred. These brochures must be stored in the materials warehouse. Only quantity-based inventory management is necessary. Therefore, these materials are created with the material type UNBW (nonvaluated material). For this reason, you require the following knowledge:

- An understanding of the features of material types UNBW and nonstock material (NLAG)

- An understanding of the procurement and inventory management of these materials

> ℹ️ For inventory management, only materials for material type UNBW are relevant, as the stock is updated based on quantity. On a related note, explain that material type NLAG is not managed based on value or quantity.
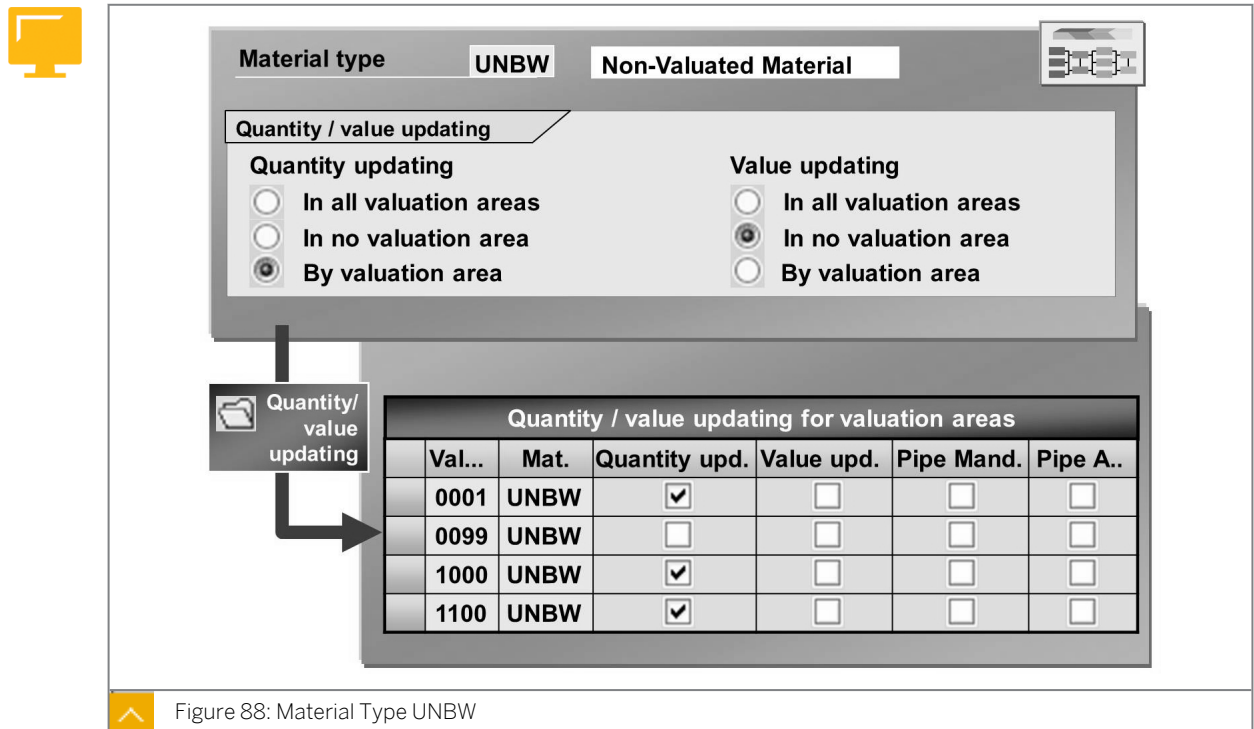
LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create a PO and enter goods movements for nonvaluated material

Material Type UNBW (nonvaluated material)

Figure 88: Material Type UNBW

You can specify which quantities are updated, but there are no values for material type UNBW in Customizing for *Logistics - General* under *Material Master → Basic Settings → Material Types → Define Attributes of Material Types* (`OMS2`).

This means that no accounting data is maintained in the material master record for materials of this material type, and stock values are not updated. These materials can, therefore, only be procured through account assignments.

Goods Receipt for Valuated and Nonvaluated Material

Purchase order	UNBW	ROH	
	with acct assgt	without acct assgt	with acct assgt
GR for purchase order			
Quantity	Warehouse **+**	Warehouse **+**	Consumption **+**
Value	Consumpt. acct **+**	Stock account **+**	Consumpt. acct **+**
Goods issue			
Quantity	Warehouse **—**	Warehouse **—**	
	Consumption **+**	Consumption **+**	
Value		Stock acct **—**	
		Consumpt. acct **+**	

Figure 89: Goods Receipt for Valuated and Nonvaluated Material

For materials that are managed both on a quantity and value basis (for example, material type ROH (raw material), the goods receipt (GR) for a PO with account assignment has the following effects:

- The quantity is posted to consumption. The consumption statistics are updated in the material master record.

- The value is posted to a consumption account. The costs are debited to the account assignment.

- The total quantity and total value of the warehouse stock remain unchanged.

For materials for material type UNBW, the GR for a PO with account assignment has the following effects:

- The quantity is posted to stock. The stock data is updated in the material master record.

- The value is posted to a consumption account. The costs are debited to the account assignment.

> **Caution:**
> The consumption statistics in the material master record are not updated after the posting of a GR.

- The total quantity of the warehouse stock is increased.

For other GRs, transfer postings, or goods issues (GIs), the system does not create postings in Financial Accounting (FI). The field control of a movement type may make it necessary to

specify an account assignment, but there are still no postings in FI. If you enter a GI for consumption, the system updates the consumption statistics in the material master record.

Material Type NLAG

Figure 90: Material Type NLAG

You can specify that the system does not update the quantities or the values for material type NLAG in Customizing for *Logistics – General* under *Material Master → Basic Settings → Material Types → Define Attributes of Material Types* (OMS2).

This means that no accounting data is maintained in the material master record for materials of this material type, and stock values are not updated. These materials can only be procured through account assignments.

For materials for material type NLAG, the GR for a PO with account assignment has the following effects:

- The quantity is posted to consumption and the consumption statistics are then updated in the material master record.

- The value is posted to a consumption account. The costs are debited to the account assignment.

> Caution:
> Updating the total quantity and total value in the material master record are not intended for material type NLAG.

📖
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Create a PO and Enter Goods Movements for Nonvaluated Material

Business Example

For the procurement of operating manuals, you selected material type UNBW because value-based inventory management is not necessary for these materials. However, the stock quantity is needed for requirements planning.

Create a PO for the procurement of operating manuals. Enter the GR for the PO, then a GI. Determine when an update in the consumption data of the material master record takes place.

In exercise steps 1, 4, and 6, verify the total stock and total consumption in the material master record for plant *1000*.

Note the values for material T-M510L## in the following table:

Exercise Step	Total Stock	Total Consumption
1: Display material		
4: After GR		
6: After GI		

1. Display material **T-M510L##** and note the material type.

   Material type: _____

   Note the total stock and total consumption in the table.

2. Create a PO for vendor **T-K510A##**. Order **100** pieces of material **T-M510L##** for plant **1000**, storage location **0001**. The net price is **EUR 1**. Post the costs of the PO to account assignment **T-L##**.

   In the header under the *OrgData* tab page, enter purchasing organization **1000** and purchasing group **T##**.

3. Vendor *T-K510A##* delivers the promotional brochures. Enter a GR for plant *1000* and storage location *0001*. Then, display the accounting document and note the updated accounts:

Debit (S)	Credit (H)
Consumption	GR/IR

   The following data displays:

SAP®

Debit (S)	Credit (H)
Consumption 400000	GR/IR 191100

4. Display material **T-M510L##**. Note the total stock and total consumption of the material in the table.

5. Enter a GI for *25* pieces of material **T-M510L##** from plant **1000**, storage location **0001**, for cost center **1000**. Verify that the system has generated an accounting document for this material document.

6. Display material **T-M510L##**. Note the total consumption of the material in the table.

Create a PO and Enter Goods Movements for Nonvaluated Material

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Business Example

For the procurement of operating manuals, you selected material type UNBW because value-based inventory management is not necessary for these materials. However, the stock quantity is needed for requirements planning.

Create a PO for the procurement of operating manuals. Enter the GR for the PO, then a GI. Determine when an update in the consumption data of the material master record takes place.

In exercise steps 1, 4, and 6, verify the total stock and total consumption in the material master record for plant *1000*.

Note the values for material T-M510L## in the following table:

Exercise Step	Total Stock	Total Consumption
1: Display material		
4: After GR		
6: After GI		

1. Display material **T-M510L##** and note the material type.

   Material type: _____

   Note the total stock and total consumption in the table.

   a) On the *SAP Easy Access screen,* choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (MM03).

   b) On the *Display Material (Initial)* screen, enter **T-M510L##** in the *Material* field.

   c) Choose the *Select View(s)* pushbutton.

   d) In the *Select View(s)* dialog box, choose *Plant Stock* and then choose the *Org.Levels* pushbutton.

   e) In the *Organizations Levels(s)* dialog box, enter **1000** in the *Plant* field and choose *Continue*.

   f) Choose ℹ️ (*Information on Material*). The *Display Material T-M510L## (Plant Stock, Nonvaluated material)* dialog box displays material type *UNBW*.

   g) Close the dialog box.

   h) Choose ➡️ (*Additional Data*).

i) Choose the *Consumption* tab page.

2. Create a PO for vendor **T-K510A##**. Order **100** pieces of material **T-M510L##** for plant **1000**, storage location **0001**. The net price is **EUR 1**. Post the costs of the PO to account assignment **T-L##**.

   In the header under the *OrgData* tab page, enter purchasing organization **1000** and purchasing group **T##**.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known* (ME21N).

   b) On the *Create Purchase Order* screen, enter **T-K510A##** in the *Vendor* field.

   c) On the *Org. Data* tab page, enter the following header data:

Field	Value
Purch. Org.	**1000**
Purch. Group	**T##**

   d) Enter the following data in the item overview:

Field	Value
Account assignment category	**K**
Material	**T-M510L##**
PO Quantity	**100 PC**
Net price	**1**
Currency EUR	
Plnt	**1000**
Stor. Location	**0001**

   e) On the *Account Assignment* tab page, enter the following item details:

Field	Value
Cost Center	**T-L##**

   f) Save your data.

3. Vendor *T-K510A##* delivers the promotional brochures. Enter a GR for plant *1000* and storage location *0001*. Then, display the accounting document and note the updated accounts:

Debit (S)	Credit (H)
Consumption	GR/IR

a) On the *SAP Easy Access screen*, choose *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement (MIGO).*

b) Enter transaction *Goods Receipt* and, as the reference, enter *Purchase* Order.

c) Enter the PO number of the order you just created and noted and choose ⊕ *(Execute).*

d) Select the *Item OK* checkbox.

e) Choose the *Post* pushbutton.

f) Enter transaction *Display* and, as the reference, enter *Material Document*.

g) Choose ⊕ *(Execute).*

h) On the *Doc. info* tab page in the header data, choose the *FI Documents* pushbutton.

i) To display the accounting document, in the *List of Documents in Accounting* dialog box, double-click the document number.

The following data displays:

Debit (S)	Credit (H)
Consumption 400000	GR/IR 191100

4. Display material **T-M510L##**. Note the total stock and total consumption of the material in the table.

a) On the *SAP Easy Access screen*, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (MM03).

b) On the *Display Material (Initial)* screen, enter **T-M510L##** in the *Material* field.

c) Choose the *Select View(s)* pushbutton.

d) In the *Select View(s)* dialog box, choose *Plant Stock*.

e) Choose the *Org. Levels* pushbutton.

f) In the Organizational Levels dialog box, enter **1000** in the *Plant* field.

g) Choose *Continue*.

h) Choose ➡ *(Additional Data)*.

i) Choose the *Consumption* tab page.

5. Enter a GI for *25* pieces of material **T-M510L##** from plant **1000**, storage location **0001**, for cost center **1000**. Verify that the system has generated an accounting document for this material document.

a) On the SAP Easy Access screen, choose *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement* (MIGO).

b) Enter transaction *Goods Issue* and, as the reference, enter *Other*.

c) Enter **201** in the *Movement Types* field and delete the special stock indicator if necessary.

d) To confirm your entries, choose *Enter*.

e) Enter the following data:

Tab page	Field	Value
Material	*Material*	**T-M510L##**
Quantity	*Qty in Unit of Entry*	**25 PC**
Where	*Plant / Storage Location*	**1000 / 0001**
Account Assignment Hint: Choose Enter to display the Account Assignment tab.	*Cost Center*	**1000**

f) Choose 💾 (*Post*).

g) Enter transaction *Display* and, as the reference, enter *Material Document.*

h) Choose 🕑 *(Execute)*.

i) On the *Doc.info* tab page, choose the 📊 *FI Documents* pushbutton. No accounting documents are created.

6. Display material **T-M510L##**. Note the total consumption of the material in the table.

a) On the *SAP Easy Access screen*, choose *Logistics → Materials Management → Material Master → Material → Display → Display Current* (MM03).

b) Enter **T-M510L##** in the *Material* field.

c) Choose the *Select View(s)* pushbutton.

d) In the *Select View(s) dialog box*, choose *Plant Stock*.

e) Choose the *Org. Levels* pushbutton.

f) Enter **1000** in the *Plant* field.

g) Choose *Continue.*

h) Choose ➡ (*Additional Data*).

i) Choose the Consumption tab page.

The results for the exercise steps are as follows:

Exercise Step	Total Stock	Total Consumption
1: Display material	0	0
4: After GR	100	0
6: After GI	75	25

LESSON SUMMARY
You should now be able to:

- Create a PO and enter goods movements for nonvaluated material

Learning Assessment

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1. Which of the following are effects of the goods receipt (GR) for a purchase order (PO) with account assignment?

   Choose the correct answers.

   ☐ **A** The quantity is posted to consumption and the consumption statistics are updated in the material master record.

   ☐ **B** The value is posted to a consumption account. The costs are debited to the account assignment.

   ☐ **C** The total quantity and total value of the warehouse stock remain unchanged in nonstock material (NLAG) type.

📖 Learning Assessment - Answers

1. Which of the following are effects of the goods receipt (GR) for a purchase order (PO) with account assignment?

   Choose the correct answers.

   ☐ **A** The quantity is posted to consumption and the consumption statistics are updated in the material master record.

   ☒ **B** The value is posted to a consumption account. The costs are debited to the account assignment.

   ☒ **C** The total quantity and total value of the warehouse stock remain unchanged in nonstock material (NLAG) type.

UNIT 5 Automated Processes in Invoice Verification

Lesson 1

UNIT OBJECTIVES

- Create invoices automatically from goods receipt data

- Execute a vendor consignment settlement

- Execute an invoicing plan settlement

- Describe the EDI process

Performing Automatic Settlements

LESSON OVERVIEW

This lesson explains the various procedures for automatic settlement in the SAP ERP application.

Business Example

To reduce paperwork and data entry errors, the accounting department wants to use the evaluated receipt settlement (ERS) for two vendors. For this reason, you require the following knowledge:

- An understanding of the prerequisites for the ERS

- An understanding of the process of settling goods deliveries automatically

- An understanding of the special procurement process of the vendor consignment

- An understanding of the basic principle of the invoicing plan

- An understanding of the basic principle of the electronic data interchange (EDI) process

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create invoices automatically from goods receipt data

- Execute a vendor consignment settlement

- Execute an invoicing plan settlement

- Describe the EDI process

Evaluated Receipt Settlement
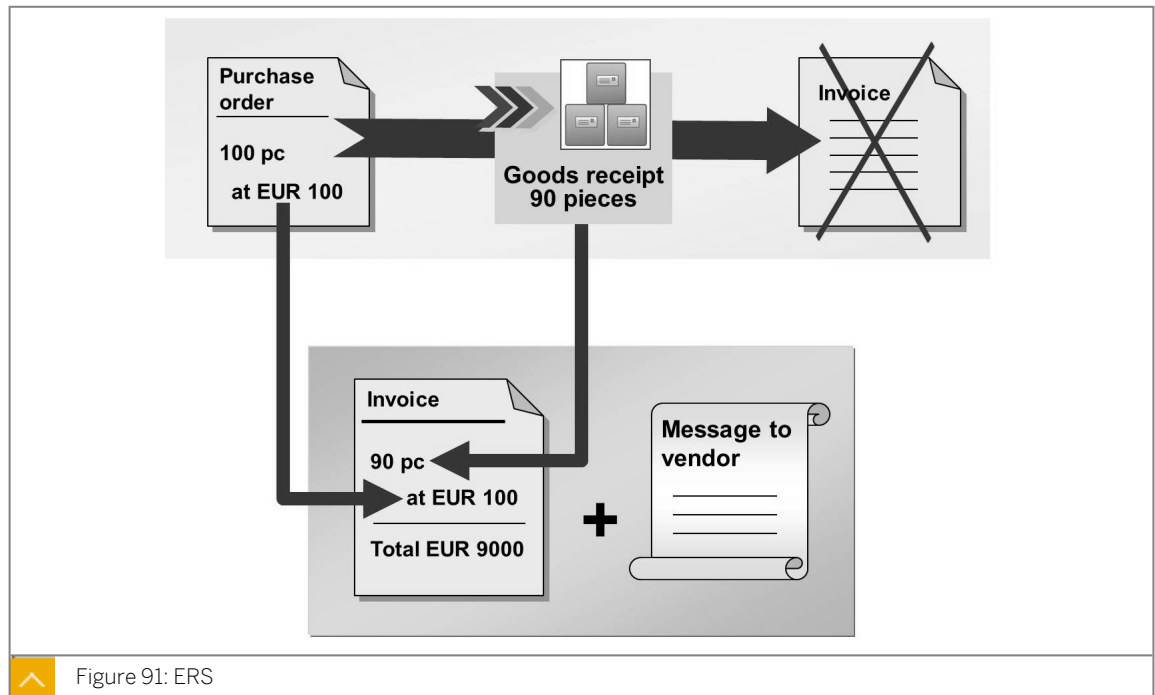
Figure 91: ERS

You agree with the vendor that invoices are not to be created for ordering transactions during the ERS. Instead, you (the goods recipient) allow the SAP system to generate the relevant invoice automatically. In the ERS, this invoice represents a credit memo for the vendor. The vendor is informed with a message (a credit memo) about the settlement of deliveries.

> **Hint:**
> The ERS is also described as the credit memo procedure.

The ERS procedure has the following advantages:
- Ordering transactions are completed more quickly
- Entry errors are avoided
- Quantity and price variances do not occur in invoice verification

Creating Invoices

The basis for creating the invoice is the data for from the purchase order (PO) and relevant goods receipts (GRs).

The system calculates the amount that must be paid to the vendor using the following data:
- Payment conditions (terms of payment) from the PO header data
- Order price from the PO item
- Tax information from the PO item

- Delivered quantities from GRs that have not been invoiced yet (using the PO history for the PO item)

If you use the ERS procedure, the conditions arranged with the vendor must be clear and you have to continuously update the POs in the system. If you have already returned settled goods to the vendor, the ERS creates a credit memo with the value of the returned quantity (this credit memo represents a debit memo for the vendor).

> ⚠ Caution:
> In versions up to and including SAP ERP 5.0, planned delivery costs cannot be settled using the ERS procedure. 💬

ERS - Prerequisites
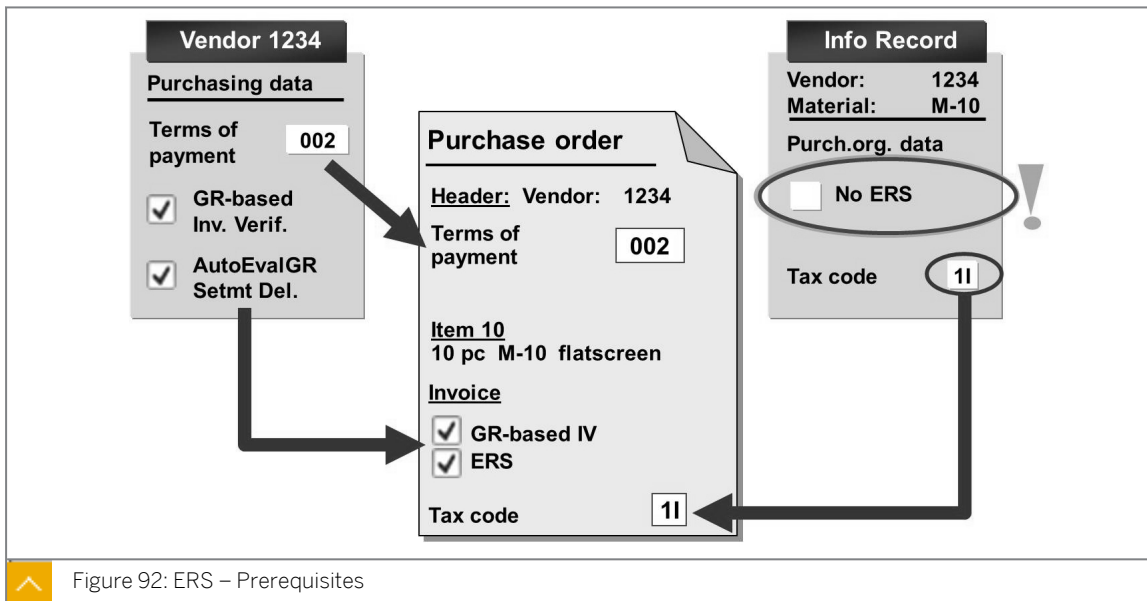
Figure 92: ERS – Prerequisites

To automatically settle GRs for a vendor, complete the following prerequisites:

- Select the checkbox for the automatic settlement of goods received (*AutoEvalGRSetmt Del.*) in the vendor master record.

- Enter the *Terms of payment* key in the header data for the PO (*Delivery/Invoice* tab page). You must use a terms of payment key, for which a default value for the baseline date is set in Customizing. You can define a default value for the terms of payment in the vendor master record in the purchasing organization data.

- Ensure that the *No ERS* checkbox is not selected in the purchasing info record for the vendor and material. If you select this checkbox in the info record, you can prevent the ERS of the material for this vendor. When you create a PO item for this vendor and material, the *ERS* checkbox is not selected in the PO item. However, you can change this default value and select the *ERS* checkbox manually.

- Select the following checkboxes in the PO item:

  - The automatic ERS checkbox is proposed in the PO item only if it has been selected in the vendor master record.

- The GR-based invoice verification checkbox can be proposed from the purchasing organization data of the vendor master record or from the info record for vendor, material, or purchasing organization.

- The tax code checkbox can, for example, be defined in the info record for vendor, material, or purchasing organization or it can be transferred from the contract item during contract releases.

- Indicate that the price in the PO item is no estimated price. The *Estimated Price* checkbox is in the PO item details on the *Condition Control* tab page.

- Enter the GR with reference to the PO.

- Make the necessary setting selections for determining a message, in Customizing for *Materials Management*, choose *Logistics Invoice Verification → Message Determination*.

Planned Delivery Costs for ERS

To settle the planned delivery costs, you need to activate auto ERS checkbox in Customizing for the combination of company code, purchasing organization, and freight vendor. To do this, in Customizing for *Materials Management*, choose *Logistics Invoice Verification → Evaluated Receipt Settlement (ERS) → Specify Automatic Settlement of Planned Delivery Costs*.

The freight vendor may correspond to the goods vendor. However, you can specify a different vendor for the expense conditions. The checkbox for the ERS must not be selected in the vendor master record for this different freight vendor.

The tax code for the item is always used for the delivery cost settlement. You cannot specify a different tax code for this item.

Executing the ERS
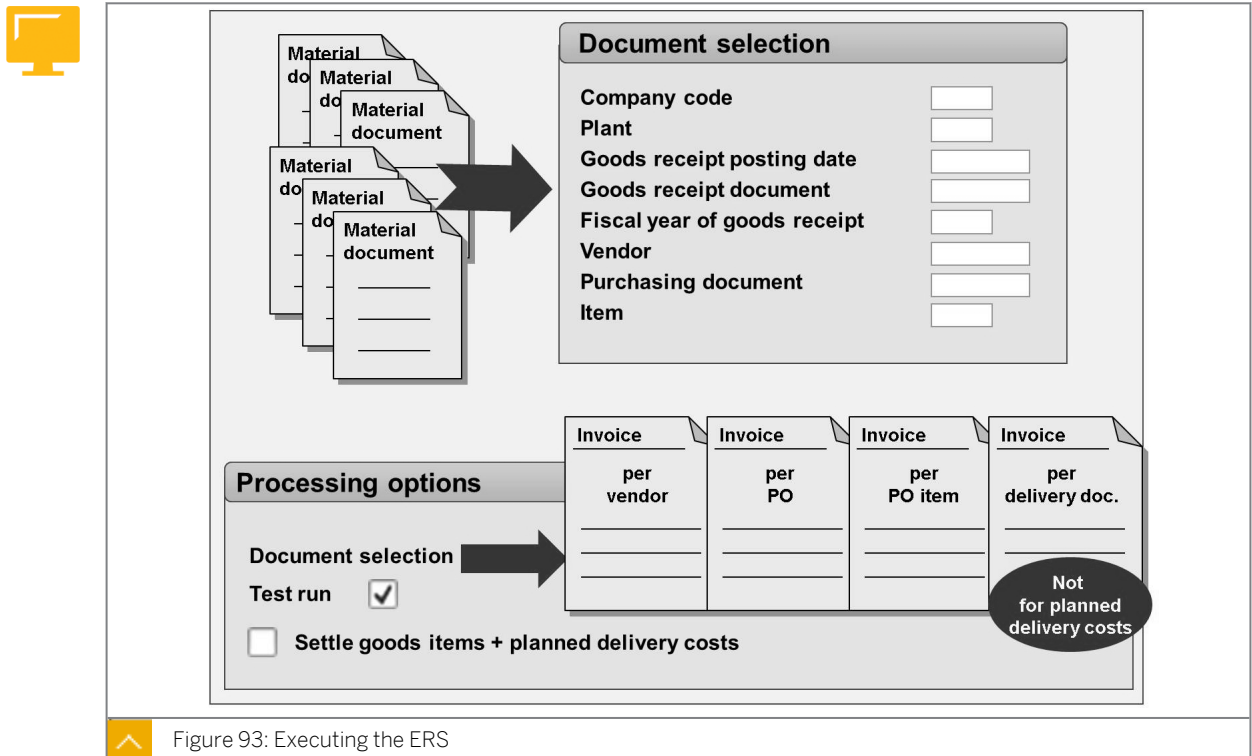
Figure 93: Executing the ERS

To execute the ERS procedure, choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Evaluated Receipt Settlement (ERS) (MRRL).*

On the initial screen, specify the operations that the system needs to settle.

After you select the operations, the following selection values become available:

- Company code

- Plant

- Posting date of GR

- GR document

- Fiscal year of GR

- Vendor

- Purchasing document

- Purchasing document item

> **Hint:**
> If you want to settle goods/service items and planned delivery costs in one step, then selection with GR-related data (such as a GR document) is not possible. If only the material or service items are to be settled, this restriction does not apply.

You must also specify the following selection that the system uses to create invoice documents:

- Per vendor

- Per PO

- Per PO item

- Per delivery document or service entry sheet

> **Hint:**
> If you want to calculate materials and planned delivery costs in one step, then document selection per delivery document is not possible. This is because GR-based invoice verification is not possible for planned delivery costs.

Planned Delivery Costs for Executing the ERS

If you want to settle only planned delivery costs, choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Automatic Delivery Cost Settlement* (`MRDC`).

The transaction to settle the planned delivery costs contains the following adjusted criteria for document selection:

- Company code

- Freight vendor

- Purchasing document

- Purchasing document item

- Bill of lading

The *Document Selection per Bill of Lading* option replaces the *Document Selection per Delivery Document* option in the list of possible document selections for creating invoices.

In both the transactions, you can perform a test run before you perform an actual settlement. The result of the settlement is stored in a log, which lists the transactions that were settled.

You can also run the ERS in the background by using the *RMMR1MRS* program. Use the *RMMR1MDC* program if you are settling only delivery costs.

> Hint:
> The ERS contains a customer exit (MRMH0001) and the two Business Add-Ins (BAdIs) (MRM_ERS_HDAT_MODIFY and MRM_ERS_IDAT_MODIFY) for customer-specific adjustments.

Create Invoices Automatically from Goods Receipt Data

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Business Example

To save on paperwork and to prevent errors from occurring during invoice verification, the accounting department wants to test the ERS for a vendor. In the future, the GRs and return deliveries posted during the day must be settled automatically each evening.

Create invoices automatically from GR data.

Test the ERS processing for the vendor, Abbott Supplies (`T-K515B##`).

1. Verify the *Purchasing data* view of the vendor master record to check if the ERS is possible for this vendor. For this, select the *AutoEvalGRSetmt Del.* checkbox.

2. Execute the ERS for vendor `T-K515B##`. Execute the settlement using document selection 3 (document selection per PO item) and, initially, in test mode. Choose a PO to settle in the next task and write down the PO number.
   PO number: _____

3. Execute the ERS again for the PO that you selected for your vendor `T-K515B##` using document selection 3, without using test mode. Which documents did the system post? Write down the document numbers.

   _____
   _____
   _____

   Display one of the documents.

4. You receive an invoice for an ERS PO from an ERS vendor. Use test mode to search for a PO that you have not yet settled. Note the PO number.
   PO number: _____

   Manually post an invoice for this PO. How does this affect the next ERS run?

   _____
   _____
   _____

📖 Create Invoices Automatically from Goods Receipt Data

Business Example

To save on paperwork and to prevent errors from occurring during invoice verification, the accounting department wants to test the ERS for a vendor. In the future, the GRs and return deliveries posted during the day must be settled automatically each evening.

Create invoices automatically from GR data.

Test the ERS processing for the vendor, Abbott Supplies (**T-K515B##**).

1. Verify the *Purchasing data* view of the vendor master record to check if the ERS is possible for this vendor. For this, select the *AutoEvalGRSetmt Del.* checkbox.

   a) Choose *Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing → Display (Current)* (MK03).

   b) On the Display Vendor Initial screen, enter the following data:

Field Name or Data Type	Values
Vendor	**T-K515B##**
PurchasingOrganization	**1000**

   c) In the *Purchasing organization data* screen area, select the *Purchasing data* checkbox.

   d) Choose *Continue*. In the *Control data* screen area, verify that the *AutoEvalGRSetmt Del.* checkbox is selected.

2. Execute the ERS for vendor **T-K515B##**. Execute the settlement using document selection 3 (document selection per PO item) and, initially, in test mode. Choose a PO to settle in the next task and write down the PO number.

   PO number: _____

   a) Choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Evaluated Receipt Settlement (ERS)* (MRRL).

   b) On the *Evaluated Receipt Settlement (ERS) with Logistics Invoice Verification screen*, enter the following selection criteria:

Field Name or Data Type	Values
Company Code	**1000**
Vendor	**T-K515B##**
Doc. selection	3

c) Select the *Test Run* checkbox.

d) Choose ⊕ (*Execute*). The system displays a list of PO transactions to be settled.

e) Choose a PO and note the number.

f) Go back to the selection screen.

3. Execute the ERS again for the PO that you selected for your vendor `T-K515B##` using document selection 3, without using test mode. Which documents did the system post? Write down the document numbers.

_____

Display one of the documents.

a) Choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Evaluated Receipt Settlement (ERS)* (`MRRL`).

b) Enter the following selection criteria:

Field Name or Data Type	Values
Company Code	`1000`
Vendor	`T-K515B##`
Purchasing Document	Noted earlier

c) Deselect the *Test Run* checkbox.

d) Choose ⊕ (*Execute*). The system posts the invoices for the PO items. A list displays the invoices that the system created.

e) Choose an invoice number to display the invoice.

4. You receive an invoice for an ERS PO from an ERS vendor. Use test mode to search for a PO that you have not yet settled. Note the PO number.
PO number: _____

Manually post an invoice for this PO. How does this affect the next ERS run?

_____

a) If you manually enter an invoice for the delivered quantity of a PO item for which the ERS is defined, the system creates a zero-value invoice for this item during the next ERS run. If you manually enter a partial invoice, the system creates an invoice for the quantity still to be settled during the next ERS run.

Vendor Consignment
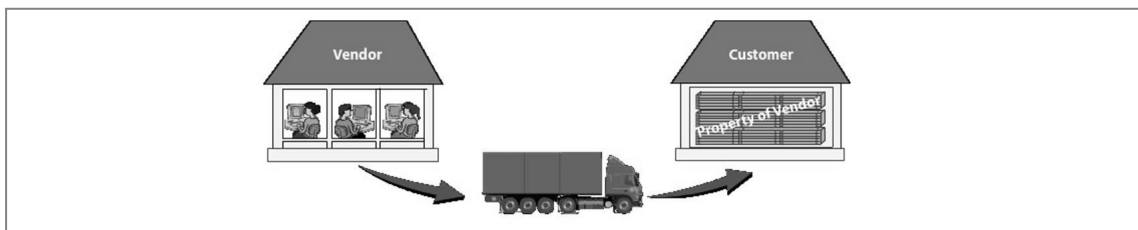
Figure 94: Vendor Consignment

In vendor consignment, your goods are first delivered by the vendor free of charge. Although the material is in your warehouse, it remains the property of the vendor. The delivery is not settled.

Only after the material has been withdrawn from the vendor consignment stock, the vendor requires payment. You do not receive an invoice from the vendor when withdrawing consignment stock. Instead, you calculate the posted withdrawals according to agreed periods; and you send the vendor a notification.

This settlement can be performed periodically in the background.

In contrast to the ERS, no reference is created to the PO of the consignment material when you settle withdrawals from the consignment stock. Instead, the withdrawals from the consignment stock are the basis of the settlement.

Vendor Consignment Settlement Pre-requisites

You need to fulfill the following prerequisites for the special procurement process of the vendor consignment:

- To specify an account for the *KON (Consignment payables)* transaction, in Customizing for *Materials Management*, choose *Valuation and Account Assignment → Account Determination → Account Determination Without Wizard → Configure Automatic Postings* (OMWB).

- The necessary settings for determining a message must exist in Customizing for *Materials Management* in *Logistics Invoice Verification → Message Determination*.

- A purchasing info record must exist for *Consignment* type vendor and the material for consignment process. The price of the consignment material and the tax checkbox for the settlement must be specified in this info record.

> 💡 Hint:
> The consignment info record must be created for the standard purchasing organization of the plant. To find the assignment of the standard purchasing organization of the plant, in Customizing for *Enterprise Structure*, choose *Assignment → Materials Management → Assign standard purchasing organization to plant* (OMKI).

Settlement of Withdrawals from Vendor Consignment Stock

Figure 95: Settlement of Withdrawals from Vendor Consignment Stock
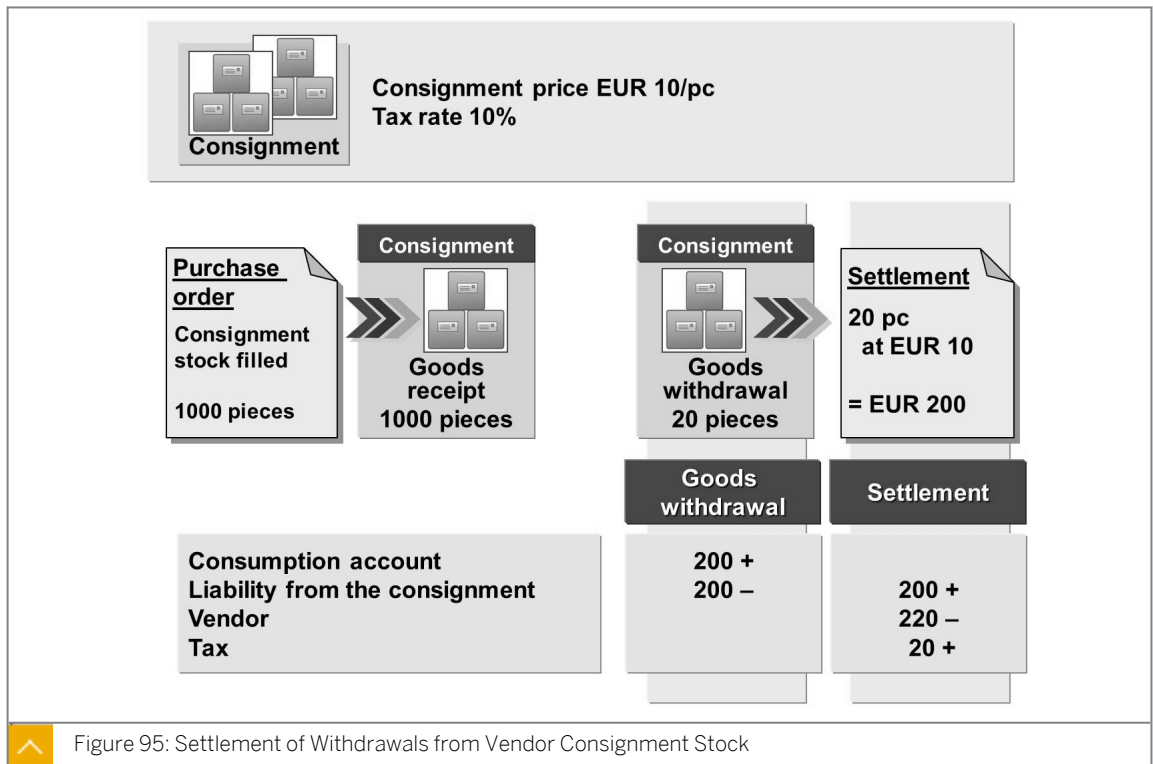
An example of the postings that are made during the withdrawal and settlement of the consignment material is as follows:

- No postings take place in accounting when the GR posting is made in the consignment stock because the material remains the property of the vendor.

- The vendor provides the material in consignment with the consignment price of EUR 10 per piece.

- When a goods withdrawal of 20 pieces is made, a posting is made to the consumption account on the basis of the consignment price (20 pieces * EUR 10 = EUR 200).

- The offsetting entry is made to the *Liabilities from Consignment* account.

- During the settlement of the consignment withdrawal, the liability created by the withdrawal is balanced. The offsetting entry is made to the vendor account.

- The amount of tax posted results from the tax checkbox that is specified in the info record (in this example the tax is 10%).

When the postings are made to the liabilities account, the system automatically generates the assignment number from the material document number, as is the case during the settlement. This means that the open items in Financial Accounting (FI) can be balanced.

> **Hint:**
> If you want to change the document header data for the consignment settlement, use the MRM_MRKO_HDAT_MODIFY Business Add-In (BAdI). For more information, see the BAdI documentation.

Settlement of Consignment Withdrawals from Vendor Consignment Stock

To settle consignment withdrawals (or pipeline withdrawals), choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Consignment and Pipeline Settlement* (MRKO).

Specify the process you want to display or settle on the selection screen.

The following options are available as selection criteria:

- Company code

- Vendor

- Plant

- Material

- Document date

- Posting date

- Material document (of the goods withdrawals)

- Withdrawals that are to be taken into account: consignments and/or pipeline withdrawals

You can decide whether to display or settle withdrawals that have not yet been settled. This transaction also allows you to select processes that have already been settled. If you do this, you can select a process according to the document number of the settlement document.

> Note:
> For more information about vendor consignment, see the SAP Library under *SAP ERP → SAP ERP Central Component → Logistics → Materials Management → Inventory Management → Managing Special Stocks and Special Procurement Types.*

How to Execute Vendor Consignment Settlement

1. Display the consignment info records for a material.

   a) Choose *Logistics → Materials Management → Purchasing → Master Data → Info Record → List Displays → By Material* (ME1M).

   b) Display the two consignment info records for the material T-M510Z12 and purchasing organization **1000**.

   c) Highlight the checkboxes for prices and restrictions.

2. Post the goods issue and display the accounting document for the goods issue.

   a) Choose *Logistics → Materials Management → Inventory Management → Goods Movement → Goods Movement* (MIGO).

   b) Post a goods issue for cost center **1000**. Withdraw material from vendor **T-K510Z01** (If necessary, display the stock overview (transaction MMBE) beforehand to view the amount of consignment stock).

c) Use the following data for the postings:

Field Name or Data Type	Values
Transaction	*Goods Issue*
Reference Document Type	*Other*
Movement type/Special stock	`201` / `K`
Material	`T-M510Z12`
Quantity (in pieces)	`50` / `PC`
Plant	`1000`
Storage Location	`0001`
Vendor	`T-K510Z01`
Cost center	`1000`

d) After posting the goods issue, display the accounting document for the goods issue, consumption posting, and the liability from consignment stock posting.

3. Display the various options in transaction `MRKO` and calculate the withdrawal for a vendor. In addition, display the accounting document for the settlement.

a) Choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Consignment and Pipeline Settlement* (`MRKO`).

b) Use the following selection criteria:

Field Name or Data Type	Values
Company Code	`1000`
Vendor	`T-K510Z01`

c) In the *Processing* screen area, select the *Settle* radio button.

d) Choose *Continue*.

e) In the result list, choose the document number that begins with *51*.

Invoicing Plan

Figure 96: Invoicing Plans
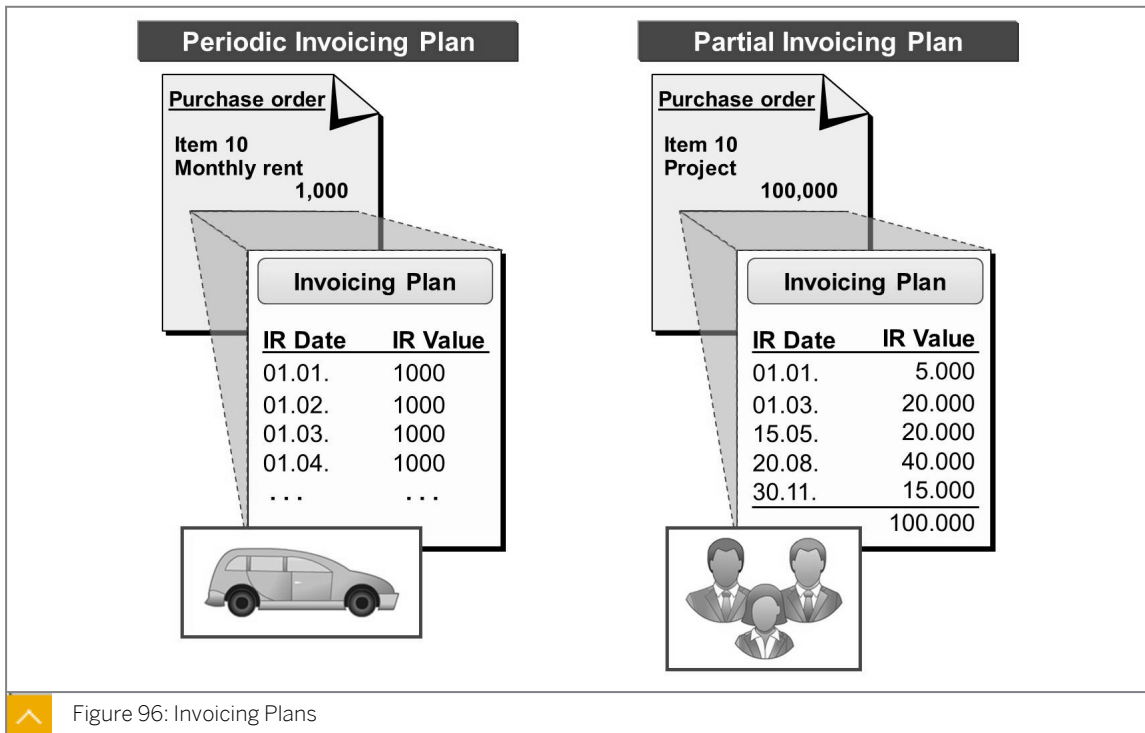
Use the invoicing plan to schedule the invoice creation for your desired dates, regardless of the procurement transaction and the receipt of the goods or service. You need to create a specific PO in the system in which you specify the date and amounts of payment to be made to vendors (invoicing plan). After consulting your vendor, let the system determine the invoices and their payments automatically, according to the invoicing plan data. If required, the vendor can be informed of a settlement through a message.

The types of invoicing plans are as follows:

- Periodic invoicing plan

    For periodic invoicing plan, the total amount of the PO item is calculated for each due date. This plan can be used for regularly recurring procurement transactions and can be compared to a recurring entry in accounting (for example, rent, leasing, or subscription).

- Partial invoicing plan

    For partial invoicing plan, the total value of the PO item is broken down and spread over the individual dates of the invoicing plan. This plan can be used for invoicing high-cost materials or projects involving the procurement of external services that are subject to stage payments (for example, plant construction projects or the invoicing of individual stages of a building project following completion in each case).

    You can also flag due dates in a partial invoicing plan as dates for advance payments. The amounts corresponding to these dates are then not taken into account in the sum total of the invoice items because advance payments are set off against later invoices.

Prerequisites of Invoicing Plan

You need to fulfill the following prerequisites before you can work with an invoicing plan:

- The necessary settings for invoicing plans must exist in Customizing for *Materials Management* in *Purchasing* → *Purchase Order* → *Invoicing Plan*.

- The necessary settings for determining a message must exist in Customizing for *Materials Management* in *Logistics Invoice Verification* → *Message Determination*.

- The checkbox for the ERS, *AutoEvalGRSetmt Del.,* must be selected in the master record of the vendor.

- The invoicing plan item in the PO must have an account assignment and you can expect only one nonvaluated GR or no GR. In addition, you must specify a tax code for the settlement in the item.

Execute Invoicing Plan Settlement

To automatically settle invoicing plans, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Automatic Settlement* → *Invoicing Plan Settlement* (`MRIS`).

On the selection screen, use the following criteria to select the invoicing plans to be settled:
- Company code

- Plant

- Vendor

- Purchasing document and document item

You can specify how the invoicing document is created with the following processing options:
- Per vendor

- Per PO

- Per order item

When the settlement run is complete, the system displays a log that lists the invoiced transactions and shows any errors which may have occurred.

> Note:
> For more information about the invoicing plan, see the SAP Library under *SAP ERP* → *SAP ERP Central Component* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Orders* → *Invoicing Plan*.

How to Execute an Invoicing Plan Settlement

1. Display the invoicing plan.

   a) Choose *Logistics → Materials Management → Purchasing → Purchase Order → Display* (`ME23N`).

   b) Display the two invoicing plans for vendor *T-K515B00*, PO *4151515100* (periodic invoicing plan), and *4151515200* (partial invoicing plan).

c) Display the most important settings in the item: *GR-Bsd IV, ERS, Tax Code,* and *Invoicing Plan* (there must be dates that are not yet billed).

d) Display the document type and the runtime in the header data of the POs.

2. Execute the settlement for an invoicing plan.

a) Choose *Logistics → Materials Management → Logistics Invoice Verification → Automatic Settlement → Invoicing Plan Settlement* (`MRIS`).

b) Use the following selection criteria:

Field Name or Data Type	Values
Company Code	`1000`
Plant	`1000`
Vendor	`T-K515B00`

c) Deselect the *Test Run* checkbox.

d) Execute the settlement for an invoicing plan. Display the various options available in transaction `MRIS`.

e) After the settlement, display the accounting document and the PO.

EDI - Electronic Data Interchange
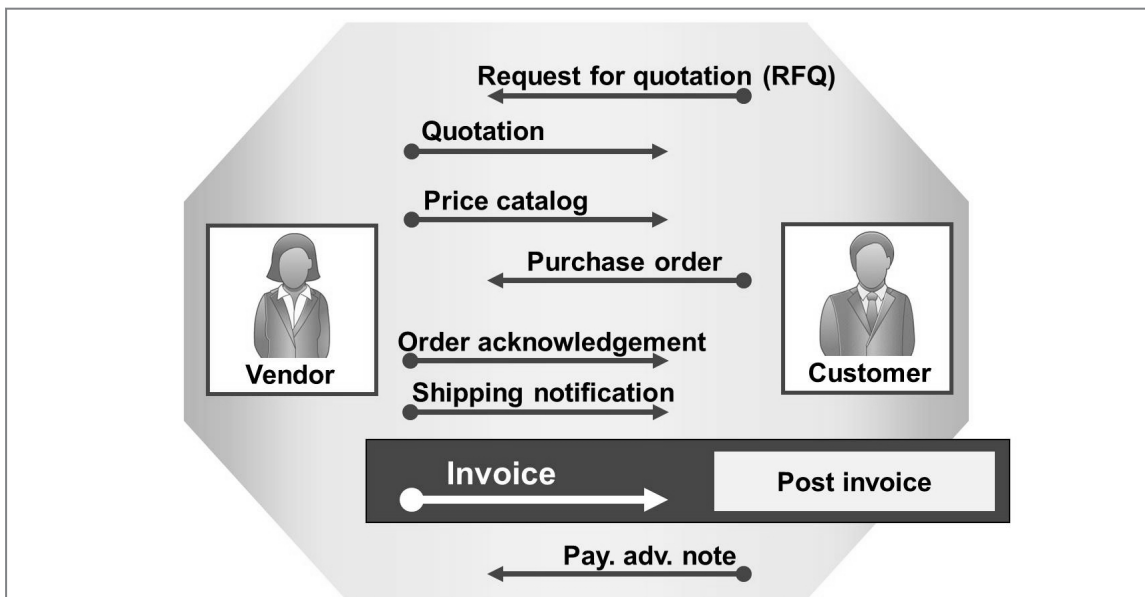
Figure 97: EDI

Many companies may transmit information to you electronically. The advantage is that data is available quickly in the host system because of the automatic receipt of the data and you can avoid entry errors.

An invoice received through EDI contains the same information as a paper invoice.

If you receive an invoice through EDI, the system posts this invoice. The system determines the items to be settled and suggests quantities and values for these items based on the PO

transmitted. In contrast to invoice verification in the background, <mark>the system checks invoices received through EDI at the item level.</mark> If an EDI invoice matches the items that the system proposes, the system posts the invoice.

If the invoice contains variances, you can post it with the variances, reduce it, or hold it and manually process it later, depending on the settings in Customizing.

<mark>You cannot settle subsequent debits or credits and planned delivery costs through EDI. You can settle only unplanned delivery costs using the MRMH0002 enhancement and the EXIT_SAPLMRMH_014 customer exit.</mark> You can post directly to the G/L or material accounts using the MRMH002 enhancement and the EXIT_SAPLMRMH_015 customer exit.

Customizing for EDI in Invoice Verification
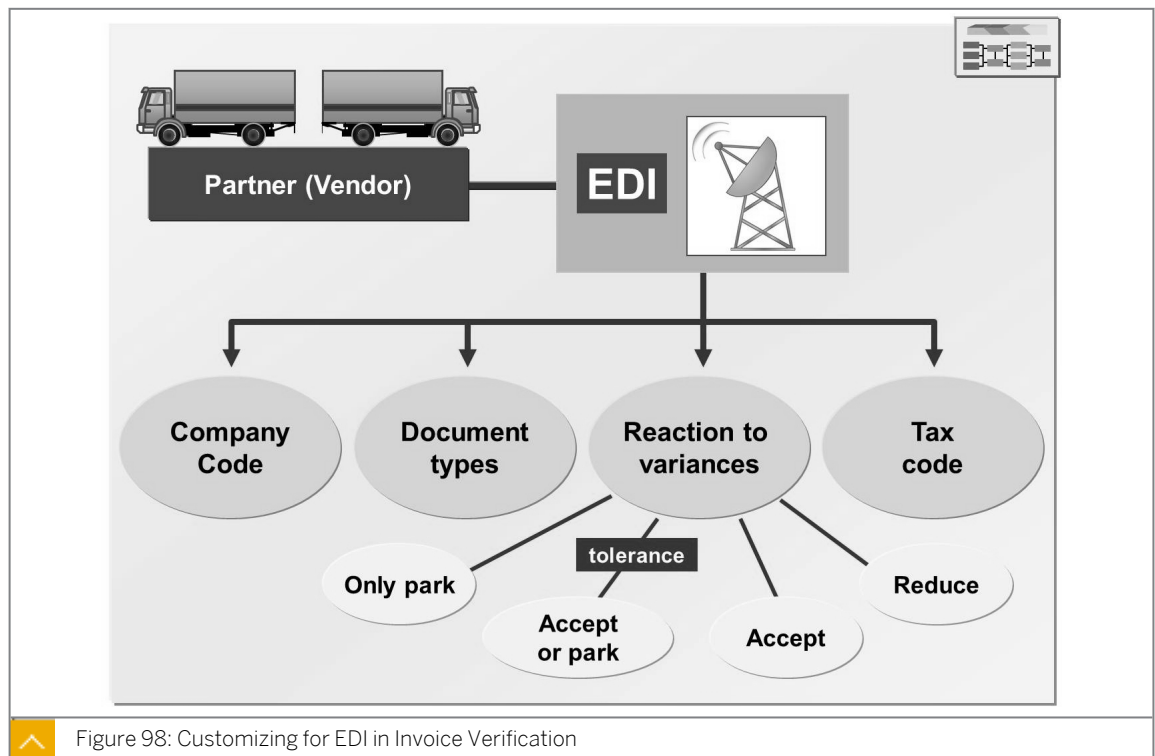
Figure 98: Customizing for EDI in Invoice Verification

For the invoice receipt (IR) through EDI, you have to specify the following criteria in Customizing for Logistics Invoice Verification:

- How the system must convert the tax codes that the business partner transmits to the tax codes used in your system

- How the system must use the company code information transmitted by the business partner to determine the company code under which it posts the invoice

- Which document types the system must use when an invoice and a credit memo are sent through EDI

- How the system must respond when there are differences between the values received through EDI and the values proposed by the system

Processing Types

<mark>You can choose between the following processing types:</mark>
- <mark>Blank</mark>

The invoice document is posted using invoice data. If it contains quantity or price variances, the system blocks it for payment.

- 1

The invoice document is entered as containing unclarified errors and saved with the values proposed by the system and the values contained in the EDI invoice. You have to manually process the parked invoice document later.

- 2

The invoice document is posted with the values determined by the system. The EDI invoice is reduced by the total of the variances.

- 3

The invoice document is posted depending on the positive small difference configured in the vendor-specific tolerances. The system first compares the positive small difference tolerance limit with the total of the positive variances of the invoice items in an invoice. Positive differences arise when the invoice value transmitted through EDI is greater than the value proposed by the system.

If the positive difference is smaller than the positive small difference tolerance limit, the invoice is posted with a quantity or price variance and the system blocks it for payment.

If the positive difference is greater than the positive small difference tolerance limit, the invoice is parked as containing an unclarified error and you must process it manually.

- 4

The invoice document is checked according to the tolerances used in online processing. You need to maintain company code-specific tolerance keys and use them to determine which variances the system checks.

To assign tax codes, in Customizing for *Materials Management*, choose *Logistics Invoice Verification* → *EDI* → *Assign Tax Codes* (OBCD).

To assign company codes, in Customizing for *Materials Management*, choose *Logistics Invoice Verification* → *EDI* → *Assign Company Code* (OBCA).

To configure program parameters, in Customizing for *Materials Management*, choose *Logistics Invoice Verification* → *EDI* → *Enter Program Parameters* (OMRY).

LESSON SUMMARY
You should now be able to:

- Create invoices automatically from goods receipt data

- Execute a vendor consignment settlement

- Execute an invoicing plan settlement

- Describe the EDI process

📖 Learning Assessment

1. Which of the following points must be fulfilled in order to apply the evaluated receipt settlement (ERS) to a purchase order (PO) item?

   Choose the correct answers.

   ☐ **A** The checkbox for the ERS must be selected in the document item.

   ☐ **B** A tax code must be maintained for the document item.

   ☐ **C** The No ERS checkbox must not be selected in the info record.

   ☐ **D** The conditions of payment of the vendor (to whom the settlement must be made) must be maintained in the vendor's master record.

2. In vendor consignment, when the vendor first delivers the goods to your warehouse, the delivery is settled.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

3. What does processing type 2 indicate?

   Choose the correct answer.

   ☐ **A** The invoice document is posted with the values determined by the system.

   ☐ **B** The invoice document is posted using invoice data.

   ☐ **C** The invoice document is saved with the values proposed by the system and the values contained in the electronic data interchange (EDI) invoice.

   ☐ **D** The invoice document is posted depending on the positive small difference configured in vendor-specific tolerances.

Learning Assessment - Answers

1. Which of the following points must be fulfilled in order to apply the evaluated receipt settlement (ERS) to a purchase order (PO) item?

   Choose the correct answers.

   [X] **A** The checkbox for the ERS must be selected in the document item.

   [X] **B** A tax code must be maintained for the document item.

   [ ] **C** The No ERS checkbox must not be selected in the info record.

   [ ] **D** The conditions of payment of the vendor (to whom the settlement must be made) must be maintained in the vendor's master record.

   Explanation: Option c) – This is only a recommendation for the PO item. You can select the checkbox in the PO item anyway.Option d) – The conditions of payment are not determined from the vendor master record. They are determined from the PO, and so have to be specified only in the PO.

2. In vendor consignment, when the vendor first delivers the goods to your warehouse, the delivery is settled.

   Determine whether this statement is true or false.

   [ ] True

   [X] False

   Explanation: In vendor consignment, your goods are first delivered by the vendor free of charge. Although the material is in your warehouse, it remains the property of the vendor. The delivery is not settled.

3. What does processing type 2 indicate?

Choose the correct answer.

X	**A**	The invoice document is posted with the values determined by the system.
	B	The invoice document is posted using invoice data.
	C	The invoice document is saved with the values proposed by the system and the values contained in the electronic data interchange (EDI) invoice.
	D	The invoice document is posted depending on the positive small difference configured in vendor-specific tolerances.

Explanation: Processing type Blank indicates that the invoice document is posted using invoice data. Processing type 1 indicates that the invoice document is entered as containing unclarified errors and saved with the values proposed by the system and the values contained in the EDI invoice. Processing type 3 indicates that the invoice document is posted depending on the positive small difference configured in vendor-specific tolerances.

UNIT 6 Physical Inventory

UNIT OBJECTIVES

- Prepare a CC physical inventory
- Prepare and conduct a sample-based physical inventory

📖 # Applying Cycle Counting

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LESSON OVERVIEW

This lesson introduces physical inventory by cycle counting (CC). In the CC method of physical inventory, material is inventoried at regular intervals during the fiscal year.

Business Example

In your company, some materials have a very high number of goods movements. This, in turn, leads to errors in stock postings, making errors in inventory management highly likely. You want to inventory the stock of some materials several times at regular intervals within a fiscal year. The length of the time intervals will be adapted to match the material movement rate. For some materials, you want to manually determine the number of inventories.

For this reason, you require the following knowledge:

- An understanding of the CC procedure

- How to set the CC indicator in the material master record

- How to create inventory documents with a batch input session

ℹ️ The disadvantage of physical inventory with the CC method is the high cost due to the greater time and effort commitment required for counting and the number of staff required. The advantage is that it minimizes errors in inventory management that occur due to a higher number of physical inventories.

🖥️ ## LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Prepare a CC physical inventory

Cycle Counting Method

Figure 99: CC Method
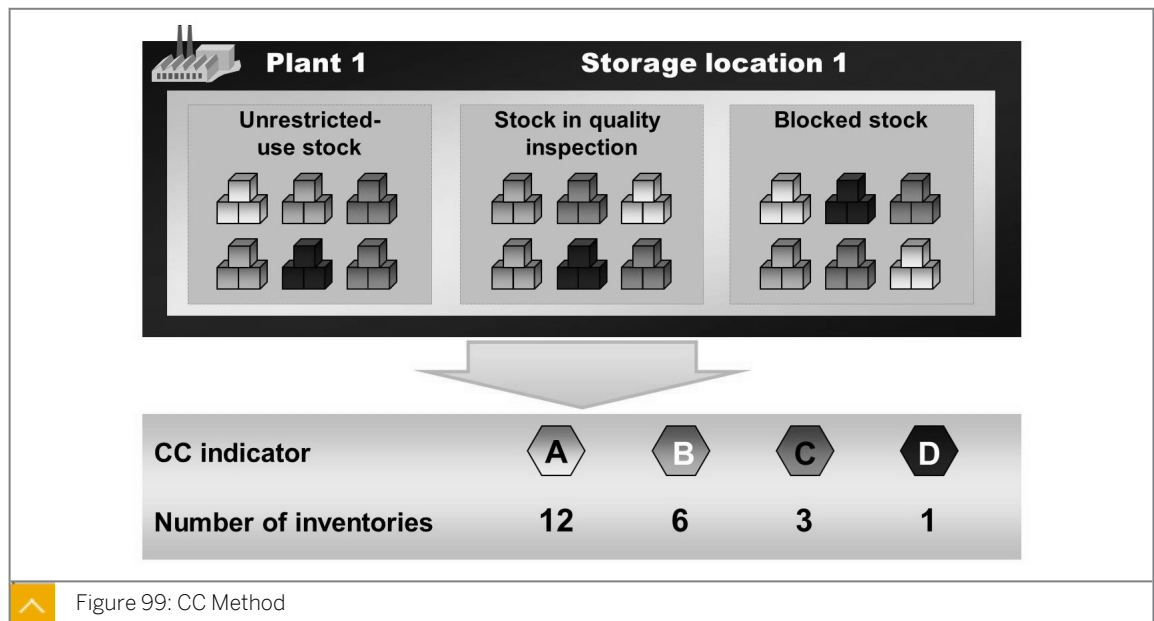
CC is an inventory procedure in which selected materials are inventoried multiple times within a fiscal year. The CC procedure is a complete inventory. All stock units are inventoried at least once a year.

With the CC method, you can include stock units of the following stock types:

- Unrestricted-use stock

- Stock in quality inspection

- Blocked stock

Using the CC indicator, the relevant materials for each plant are grouped into categories. For each of these categories, the number of physical inventories to be conducted each year is defined.

The physical inventory documents are created in a batch input session. Using the CC indicator of the material and the last inventory date, the system determines the planned count date for the inventory stock unit and creates a batch input session. When the session is run, the system creates the physical inventory documents.

Definition of the Cycle Counting Indicator

Customizing: Settings for Cycle Counting

Plant	CC indicator	No. of phys.inv.	Interval	Float time	Percentage
1200	A	12	20	5	56
1200	B	6	41	10	28
1200	C	3	83	20	14
1200	D	1	249		2
. . .					

Indicator to use

Number of inventories per year → **Number of workdays between two inventories**

Number of workdays for conducting the inventory

Σ=100% Consumption value or reqmnt value

Figure 100: Definition of the CC Indicator

You can define the physical inventory cycle for each indicator of the CC inventory in Customizing for *Inventory Management and Physical Inventory* under *Physical Inventory → Cycle Counting* (OMCO).

You must define the following values for each indicator used:

- Number of inventories in each year

  The number of inventories in each year is then used by the system to calculate the number of workdays between the inventories (interval).

- Float Time

  The float time is the time interval within which the inventory of a stock unit must be conducted.

- Percentage of the total value

  You determine the CC indicator using an ABC analysis.

For each plant, you must define CC indicators for the inventory. You can define different strategies in different plants. To calculate the number of workdays between two inventories, the system refers to the assigned factory calendar of the plant. Changes to the plant calendar after the calculation is made are not reflected in the interval as no updates are made. To create the inventory documents, the system uses the interval length and not the number of inventories. If the calendar is changed, the indicators must be re-entered.

> Note:
> SAP Note 518418 contains a list of frequently asked questions about the CC inventory.

How to Set up Customizing for the Cycle Counting Indicator

1. Go to Customizing for *Materials Management* under *Inventory Management and Physical Inventory → Physical Inventory*.

2. Choose ⊕ (*Cycle Counting*).

CC Indicator Determination

The CC indicator can be assigned manually and with report RMCBIN00. CC inventory indicators can be manually fixed to prevent any automatic changes by the report. Manually fixed indicators in the material master are highlighted in green in the report.

Report RMCBIN00 provides the material selection for each plant and material type. Materials with and without a CC indicator can be analyzed. For the selected stock, consumption or requirement values in a particular time period are considered.

To start the ABC analysis for setting the CC indicator, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Cycle Counting → Set Cycle-Counting Indicator* (MIBC).

The report issues a list in the standard system that contains the following information:

- Material number with short text

- CC indicator resulting from the analysis

- Old CC indicator

- Value of the requirement or consumption in the selected time period

- Part of the total value comprised by the material

- Cumulated value

CC Indicator Determination – Example

Material	Material Description		CC New	CC Old	Total Val.	. . .	%	Cum. %
PUMP 1	Pump with		A	A	1625,00		8,00	8,00
PUMP 2	Pump with		A	B	1608,75		7,92	15,92
PUMP 3	Pump with		A	A	1492,19		6,90	22,82
			. . .					
PUMP 9	Pump with		A	A	791,09		3,90	56,16
PUMP 10	Pump with		B	C	650,00		3,20	59,36
PUMP 11	Pump with	fixed	A	A	631,12		3,11	62,47
PUMP 12	Pump with		B	B	541,00		2,90	65,37
			. . .					

	Materials	Inventories	Counts
A	10	12	120
B	21	6	126
C	51	3	153
D	118	1	118

New analysis:
Determine indicators and counting effort with other percentages for the selected materials

Figure 101: ABC Analysis of the Cycle Counting Inventory

The new CC indicators are determined using an ABC analysis.

The system totals the particular parts at the total consumption value or total requirement value of the materials.

For example, 200 items of a material (pumps) are inventoried in a given storage location.

The CC indicators for the given scenario are set in Customizing, according to the following values:

- A = 12 inventories (56%).

- B = 6 inventories (28%).

- C = 3 inventories (14%).

- D = 1 inventory (2%).

The pumps are analyzed in the ABC analysis of the CC according to consumption as follows:

- The first 9 materials have indicator A. They account for 56% of the consumption (sorted in descending order).

- For pump 11, CC indicator A is maintained and fixed manually in the material master record, which means that it can no longer be changed with the CC report.

- 21 materials have indicator B. These account for 28% of the total consumption value.

- 51 materials have indicator C. These account for 14% of the total consumption value.

- 118 materials have indicator D. These account for 2% of the consumption value.

- Among the 200 materials, there are a total of of 517 inventory counts.

You can manually change individual values using the report for nonfixed indicators. The value is not fixed, but can be changed by the report.

You can run a CC analysis using either of the following values:

- Consumption analysis

   The system uses the consumption quantities updated in the material master. The consumption value is determined from the corrected quantity of the total consumption and the valuation price for the specified plant.

- Requirement analysis

   The system determines the total requirement value of the materials using independent requirements, sales orders, dependent requirements, stock transport order requirements, and the valuation price of the material.

How to Execute the Report for Determining the Cycle Counting Indicator

1. On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Cycle Counting → Set Cycle-Counting Indicator.*

2. Enter the following data:

Field	Value
Plant	**1200** (Dresden)
Material Type	**ROH** (Raw material)

3. Choose (*Execute*).

4. To change the indicator for a material, place the cursor on the item and choose *Change CC Indicator* on the application toolbar.

5. You can restart the calculation for the selected materials with changed percentage rates. Choose *New Analysis* on the application toolbar.

Creation of Physical Inventory Documents

Figure 102: Material Due Date

To plan the CC inventory, start program *Create Physical Inventory Documents for Cycle Counting* (report RM07ICN1) to check all materials for the due date. On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Cycle Counting → Create Physical Inventory Documents* (`MICN`).

A material becomes due for inventory, if the following conditions apply:

- The date set based on the last inventory and the predefined interval of the indicator has been exceeded.

- The date of the time buffer has been exceeded. If an existing inventory with existing physical inventory documents is not conducted within the time buffer, the material is again flagged for inventory.

- The creation date of the accounting view for the predefined interval of the indicator has been exceeded (see SAP Note 33018)

- The creation date of batch for the predefined interval of the indicator has been exceeded (see SAP Note 33018)

The material due date is determined using the planned count date. You cannot use a date in the past for this selection (see SAP Notes 518418, 75006).

You can directly generate a batch input session when executing the selection or you can first execute the selection, and after checking the list, generate the session. The physical inventory documents are created when the session is run. You can create them as blocked physical inventory documents, or block them later. The subsequently conducted inventory is a complete inventory, which must be taken at the end of the fiscal year.

How to Select the Materials for the Cycle Counting Inventory
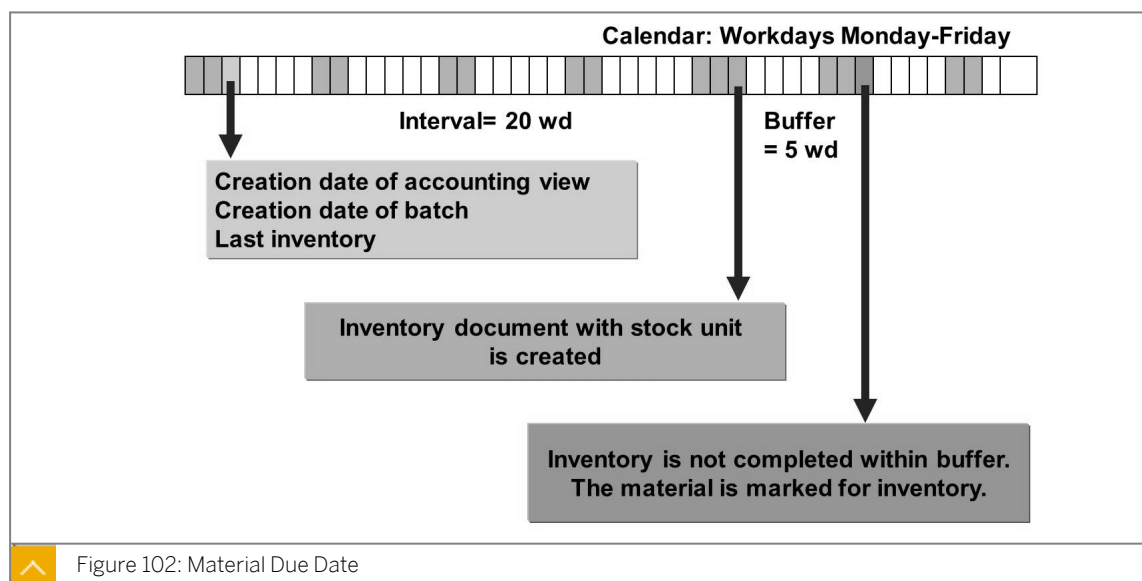Plan the next CC inventory.

1. Create a physical inventory document.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Cycle Counting → Create Physical Inventory Documents.*

b) Enter the following data:

Field	Value
Material	**XX-110** to **XX-220**
Plant	**1200** (Dresden)
Storage Location	**0001** (material stores)
Material Type	**ROH** (Raw material)
Planned Count Date	<Today> to <Today + 2months>

Ensure that the *Generate Batch Input* checkbox is not selected and, therefore, the session is not to be created.

c) Choose ⊕ (*Execute*).

d) Choose *Generate Session*.

e) Choose *System → Services → Batch Input → Sessions.*

f) Enter <your user ID> in the *Created by* field.

g) Choose the entry with creation program RM07ICN1 and choose (*Process*).

h) Choose *Background* and *Extended log*. Choose *Process*.

i) Choose *Goto → Logs*.

j) Choose the last entry and then choose *Log → Display*.

k) Note the physical inventory document number.

2. Display the physical inventory document you just created.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Physical Inventory Document → Display.*

Set the Cycle Counting Indicator in Material Master Records Using ABC Analysis

Business Example

In your company, some materials have a high turnover rate. To keep discrepancies in inventory management to a minimum, you decide to inventory materials with a particularly high turnover rate more frequently within the fiscal year.

Inventory your finished products with CC counting. Assign the CC indicator using an ABC analysis of the consumption values.

1. In the report for assigning the CC indicator, select all stock materials with material type *Finished Product* in plant *1000*. Determine the indicators using the consumption values since the beginning of the previous year. Display the result of the analysis first, so that you can make manual changes where required.

   Assign the CC indicator *C* manually for the material *T-INV8##* and determine the inventory counting effort.

Set the Cycle Counting Indicator in Material Master Records Using ABC Analysis

Business Example

In your company, some materials have a high turnover rate. To keep discrepancies in inventory management to a minimum, you decide to inventory materials with a particularly high turnover rate more frequently within the fiscal year.

Inventory your finished products with CC counting. Assign the CC indicator using an ABC analysis of the consumption values.

1. In the report for assigning the CC indicator, select all stock materials with material type *Finished Product* in plant *1000*. Determine the indicators using the consumption values since the beginning of the previous year. Display the result of the analysis first, so that you can make manual changes where required.

   Assign the CC indicator *C* manually for the material *T-INV8##* and determine the inventory counting effort.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Cycle Counting → Set Cycle-Counting Indicator*(MIBC).

   b) Enter the following data:

Field	Value
Plant	**1000**
Material type	**FERT**
Consumption/Usage	<01.01.2003 to today's date>

   c) Select the *All Materials Held in Stock* checkbox.

   d) Select the *Display list first* radio button.

   e) Choose 🕐 (*Execute*).

   f) Place the cursor on the material line *T-INV8##*.

   g) Choose *Change CC Indicator*.

   h) Enter *C* as the indicator.

   i) To determine the inventory counting effort, choose *Goto → Counting Effort*, or scroll to the end of the list.

LESSON SUMMARY
You should now be able to:

- Prepare a CC physical inventory

📖 Applying Inventory Sampling

LESSON OVERVIEW

This lesson introduces inventory sampling procedures that allow you to reduce the time and effort costs of a physical inventory. In this procedure, only a part of the stock is actually counted. The inventory count result is extrapolated to all stock management units.

Business Example

You want to keep the number of materials to be counted in your company to a minimum. You, therefore, want to test inventory sampling in your plants for raw materials. For this reason, you require the following knowledge:

- An understanding of the inventory sampling procedure
- An understanding of the Customizing settings for the inventory sampling procedure
- How to conduct inventory sampling in the system

> ℹ️ This lesson covers the basics of inventory sampling. The method describes how samples are pulled from stock elements. The physical inventory documents are created in batch input sessions. A complete demonstration is not possible in an Internet Demonstration and Evaluation System (IDES) with the time restrictions of the course. There would be too many stock units to count (enter).

🖥️ LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Prepare and conduct a sample-based physical inventory

Calculation Basis

Figure 103: Lorenz Curve - Value of Stock Management Units
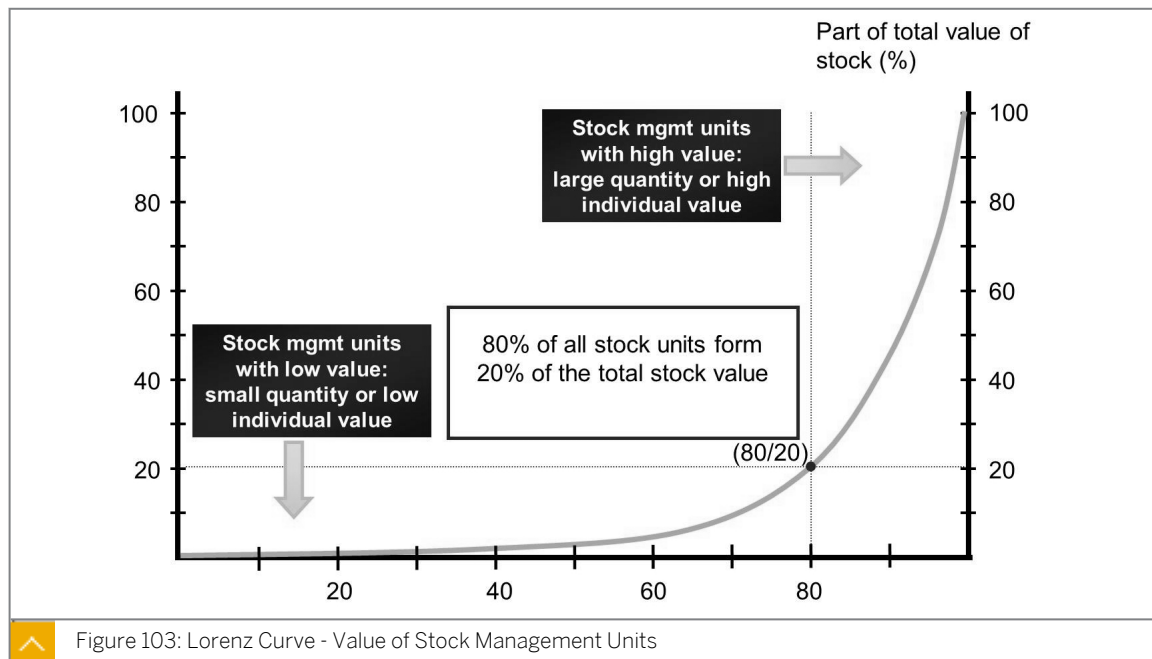
Using the inventory sampling procedure means that a complete inventory is not conducted. Only some of the stock units are inventoried and the count results are extrapolated to the value of the total stock.

The inventory sampling procedure only makes sense if the statement value of the inventory matches the value of the physical inventory. Every inventory has errors due to counting errors and input errors The inventory sampling must have the same value and same error as a total inventory.

During an inventory sampling, the counting error is smaller than it is in a complete inventory, because only a portion of the stock units is inventoried. Errors also occur during inventory sampling due to count extrapolation to the total stock. In inventory sampling, the sum of these two errors (counting and extrapolation) cannot exceed the total error of an equivalent complete inventory.

An ideal value distribution of the stock units for a sample-based physical inventory follows a Lorenz curve. If you add the values of all of the stock units in ascending order to obtain the total value of the stock, then 80 % of the stock units account for 20% of the total value at any given time. This period may be a plant or particular stock management levels. Stock management levels that lie under the 20 % line either have a low quantity or a low material valuation price. An error in this region has little consequence on the total error of the inventory for this stock. The stock management units in this region are sampled.

Inventory Sampling

In inventory sampling, extrapolation error is minimized. This is achieved by setting parameters in a special profile.

To create inventory sampling profiles, go to Customizing for Inventory Management and Physical Inventory Physical Inventory under *Inventory Sampling → Create Inventory Sampling Profiles* (OMCK).

> ℹ️ Discuss the importance of consulting with the company's external auditor when defining the inventory parameter.

After the inventory sampling is created with a separate document, the stock management units are grouped, the samples are counted, and the batch input session is created, step by step.

When the batch input session is run, the system creates the physical inventory documents. After you enter and post the count results, extrapolations can be created in the system and checked for recount.

To select which stock management units will be physically counted in the inventory sampling, perform the following steps:

1. Select the stock management levels.

2. Form the stock population and group of stock management units of the stock population in value classes.

3. Form the strata.

4. Randomly select stock management units to be inventoried from the strata.

Form the Stock Population from Stock Management Levels

Plant:	1000	Plant:	1200	Plant:	1200
Storage loc.:	0001	Storage loc.:	0001	Storage loc.:	0001
Stock type:	unrestr. use stock	Stock type:	blocked stock	Stock type:	unrestr. use stock
Material type:	ROH	Material type:	HIBE	Material type:	ROH
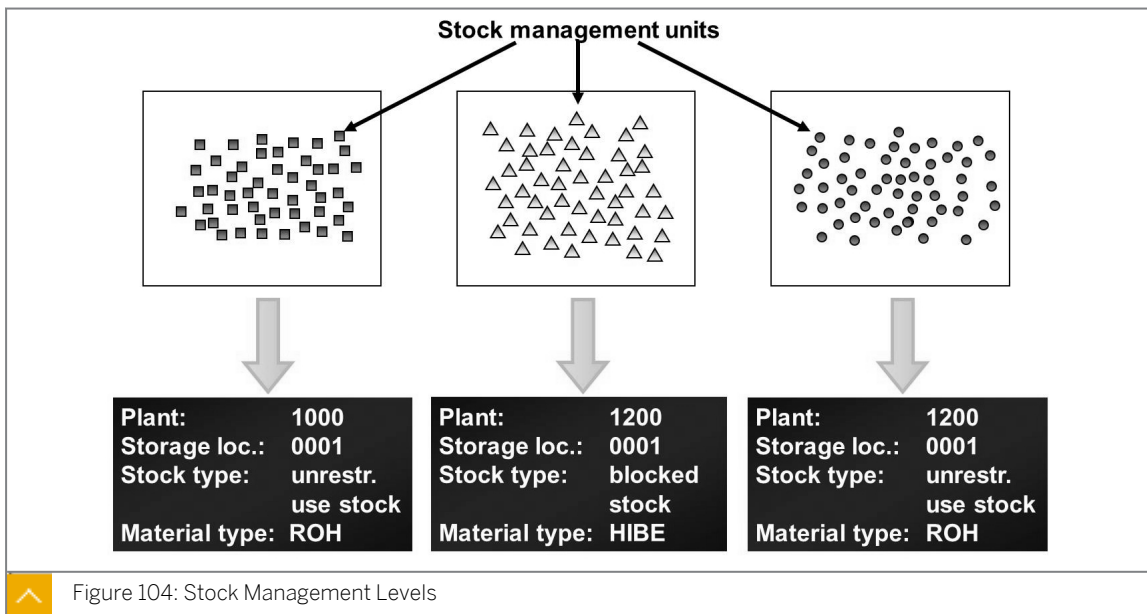
Figure 104: Stock Management Levels

A stock management level is the quantity of all stock management units from a warehouse management, warehouse number, and storage type perspective that match in terms of the plant, storage location, material type and stock type.

All of the stock management units of the selected stock management level are counted as part of the inventory sampling.

> **Caution:**
> Stock management units, which are already part of an active inventory, from the selected stock management levels are excluded from the inventory sampling.

To define which stock management levels can participate in an inventory sampling, go to Customizing for *Physical Inventory* under *Inventory Sampling → Define Stock Management Levels* (`OMCL`). Then, define in the application which of the stock management units defined is actually performed in the inventory sampling.

Stock Population

Figure 105: Stock Population
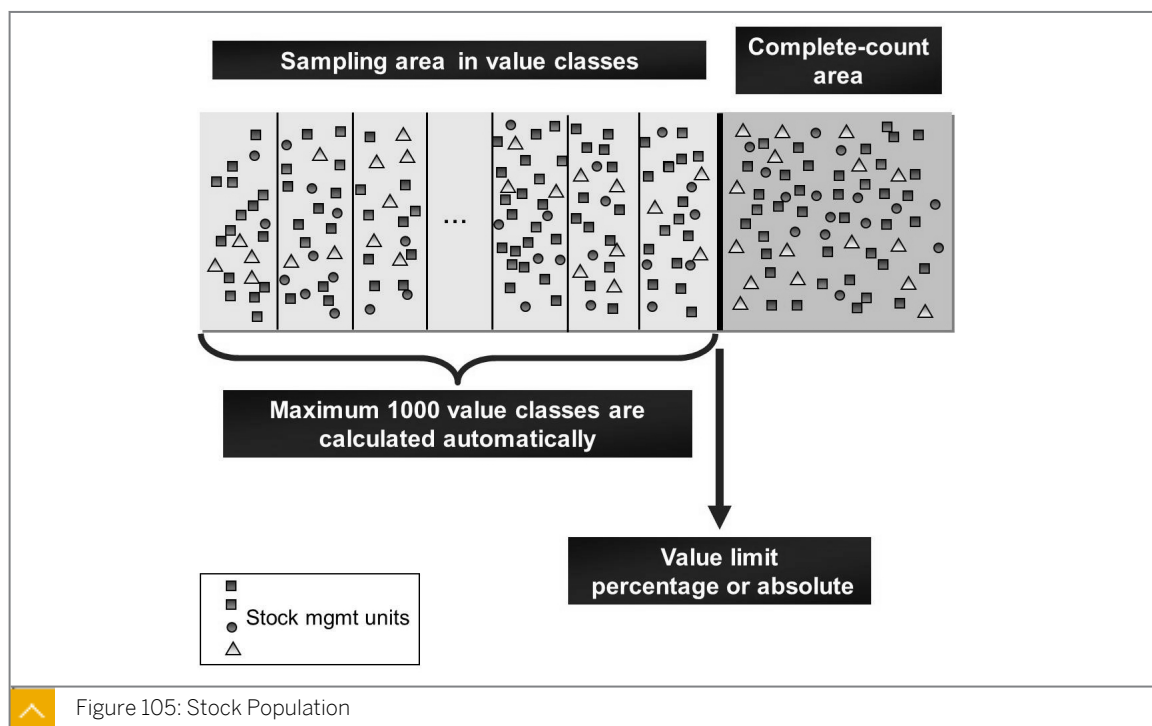
The total quantity of stock management units from an inventory sampling is indicated as the stock population. The results of the inventory sampling refer to the stock population. The stock population is divided into the sampling area and the complete-count area.

As sampling stock management units with high values unnecessarily increases the error, a threshold value is set. Sampling is only performed on management units that are below the threshold value. The threshold value can be specified in either absolute value or relative to the stock population. Based on the Lorenz distribution, approximately 20% of the total value of the stock population lies above the threshold.

To control whether a complete-count area is scheduled for a stock management unit, you can set the following parameters:

- A deletion flag has been set in the material master record for the stock management unit.

- The book inventory of the stock management unit is zero.

- The stock management unit shows a particular ABC indicator.

- The price of the material lies above a particular limit.

- The value of the stock management unit (material price x quantity) lies above the threshold value based on the Lorenz curve.

When designating the stock population, the system attempts to stratify the stock management units according to value into 1000 classes. Dividing the stock into large number of classes prevents sampling bias when selecting stock management units for sampling. A high bandwidth generates a larger error than a sample from a quantity of stock management units with approximately the same value.

The system calculates the class interval from the set upper value limit. The class interval = upper value limit /1000, rounded up to the next whole number.

Classes are designated by using the class interval until the upper threshold limit is reached. The process of rounding up generally results in fewer than 1000 classes. The last class ends with the upper value limit.

Stratification
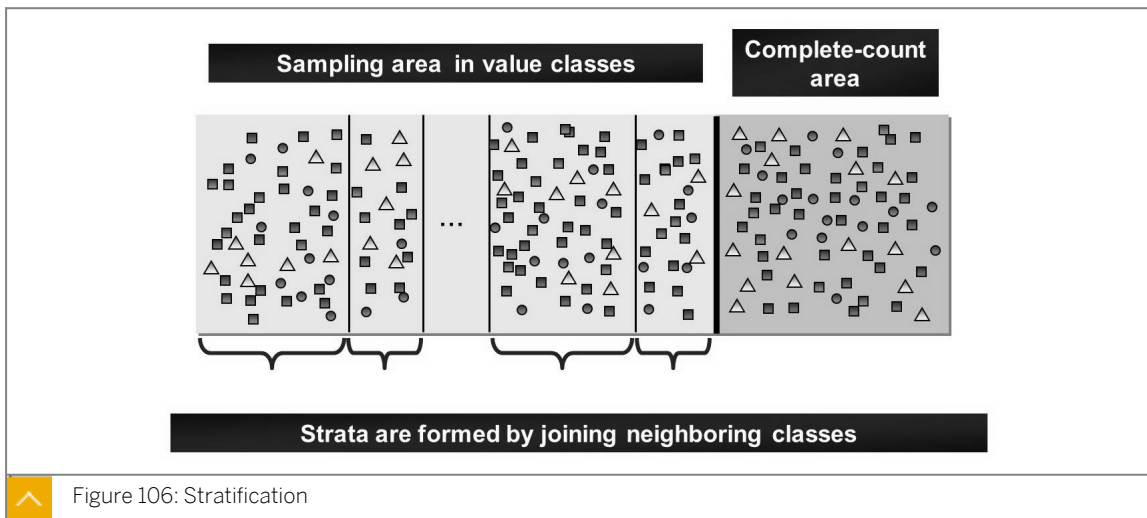
Figure 106: Stratification

To reduce the number of required counts, random selection and extrapolation are conducted in individual strata. Forming the stratification is based on class division; individual neighboring classes are grouped into strata. The system calculates the stratification by using the Dalenius-Hodges procedure.

To calculate the stratification by the system, the following information is necessary:

- The number of elements included in a class

- The number of strata are to be formed

> **Hint:**
> For a detailed description of the Dalenius-Hodges calculation method, see the SAP Library under *Inventory Sampling*.

You can display all strata or just the optimal strata for the inventory sampling.

The number of samples to be pulled for counting is an important parameter for inventory sampling. For accurate prediction of the total value of the stratum using extrapolation, the sample quantities must be as large as possible. However, to decrease the inventory counting

effort, a smaller number of samples is advantageous. You must determine the minimum sample quantity and the stratification parameters together with an external auditor.

Sample Selection
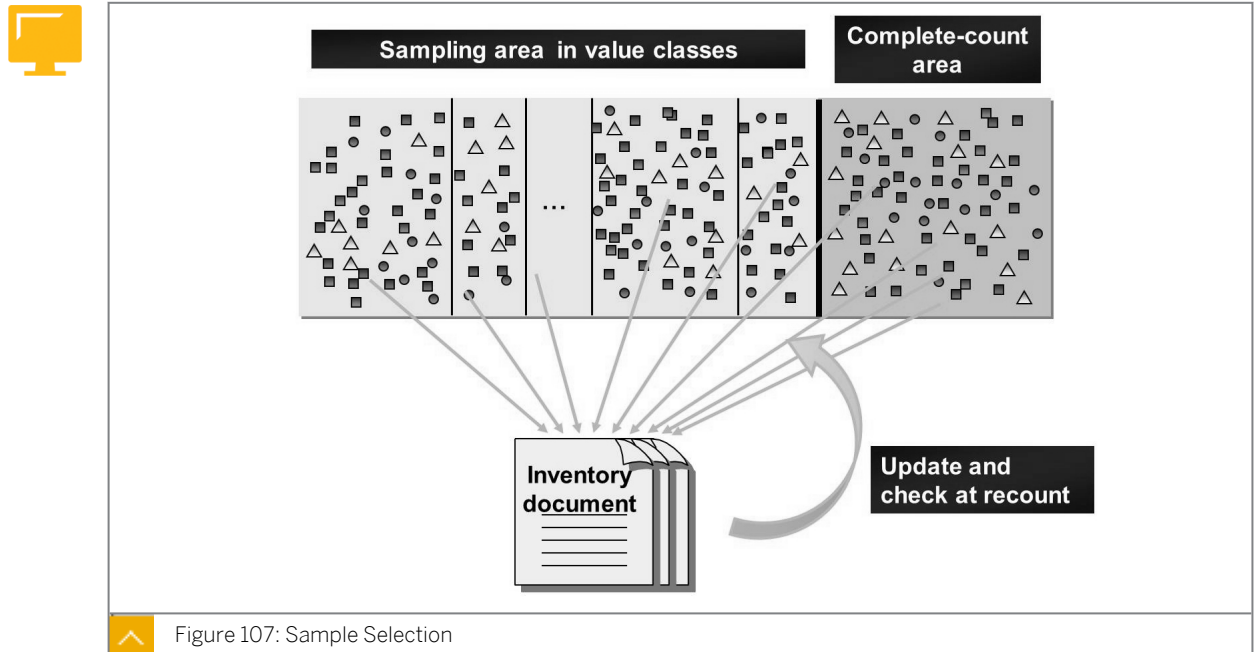
Figure 107: Sample Selection

In random selection, the elements of the strata to be counted are chosen at random for each stratum. When you conduct the random selection, the transactions carried out up to that point are binding. The stock levels, stock population, and stratification cannot be changed after that point.

The random selection does not automatically create physical inventory documents. You can choose whether the physical inventory is to be conducted. Random selection takes place with random numbers that are created in the system with an internal random number generator. This random number generator works in accordance with the linear congruency method.

With a batch input session, the system creates the physical inventory documents for this inventory sampling.

Inventory sampling includes the following steps:

1. Creation of physical inventory documents

2. Stock count

3. Analysis of differences

During an update, the system performs the following actions:

- Reads extra posted count results

- Determines changes to book inventories and values

- Determines any necessary subsequent random selections

If you enter a count or post a difference for an inventory document of an inventory sampling, the entry and posting is retained in the physical inventory document. The system does not automatically update the information in the inventory sampling. This only happens during the update. Values for stock management units that have already been counted and for which differences have been posted are no longer updated.

A posting block for stock management units to be counted is put in place if planned in the inventory documents. It exists only between the creation of the inventory document and the entry of the physical inventory count. Stock postings are allowed before and after the posting block.

For stock management units that you do not have to count, postings can take place at any time during the entire inventory sampling without restriction. As a result, this may result in changes to the book inventories or book values during an inventory sampling. In this case, it is a permanent inventory sampling. The system determines the changes in the update and takes these into account in the extrapolation.

In permanent inventory sampling, there may be changes to the book inventory and book values in the course of inventory sampling. This can mean that a stock management unit belongs to a different stratum at the current time point than at the planned time point.

Switching between the sampling area and the complete-count area are also possible. If a stock management unit switches to the complete-count area, the unit must be counted. The system proposes a subsequent random selection for the complete-count area.

Extrapolation

Figure 108: Extrapolation
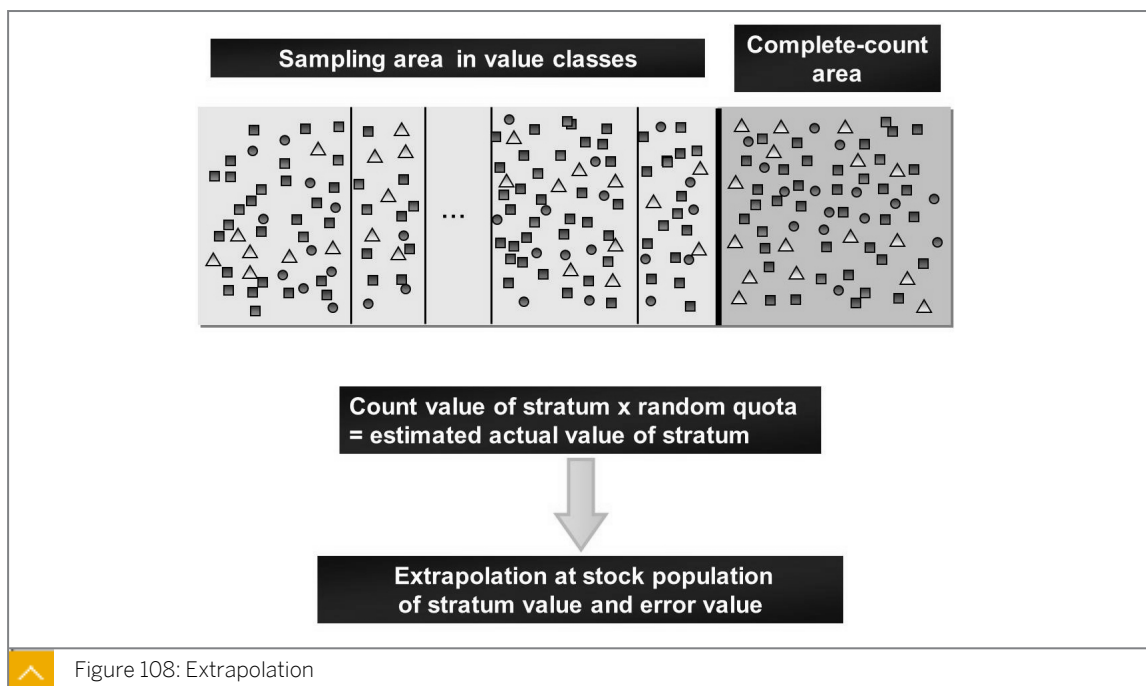
The types of extrapolation are as follows:

- Provisional extrapolation

  A provisional extrapolation exists when differences are posted only for some of the stock management units that are to be counted for a stratum. Any number of provisional extrapolations can be created; only the most recent one is saved.

- Final extrapolation

  A final extrapolation is produced when all differences are posted, all count results are entered in the calculation, and a subsequent random selection is not necessary. A final extrapolation can only be performed when no new results can be added.

Various mathematical procedures can be used to perform extrapolation. The SAP ERP application currently supports the mean-value estimation procedure.

The results of the extrapolations are divided into the following areas:

- Group formation of the entered parameters

- Information about each of the individual sampling strata

- Extrapolation results for the entire sampling area

- Information about the complete-count area

- Extrapolation results for the complete area

You can only follow the results of the inventory sampling if the complete printout of extrapolations from SAP ERP is available.

FACILITATED DISCUSSION

For which materials can you conduct the physical inventory? What is the advantage of the inventory sampling?

How to Prepare and Conduct a Sample-Based Physical Inventory

Define the profile for and perform the sample selection.

1. Display inventory profile 01.

   a) Go to Customizing for *Materials Management* under *Inventory Management and Physical Inventory → Physical Inventory → Inventory Sampling → Create Inventory Sampling Profiles.*

2. Define stock management levels.

   a) Go to Customizing for *Materials Management* under *Inventory Management and Physical Inventory → Physical Inventory → Inventory Sampling → Define Stock Management Levels.*

   b) Show that stock management units for unrestricted-use stock and the quality inspection stock can be activated. Blocked stock cannot be inventoried with the inventory sampling even if they display as part of the entry options.

3. Create an inventory sampling.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Inventory Sampling Procedure → Create → ERP System*.

   b) Choose profile *01* and save the inventory.

4. Change the inventory.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Physical Inventory → Special Procedures → Inventory Sampling Procedure → Change.*

   b) Enter the number.

   c) Choose *Enter*.

5. Choose the stock management units.

---

a) Choose *Transaction/Event → Stock Mgmt Levels → Selectable*.

b) Choose the stock management levels of plant *1100* and choose *Copy*.

c) To form the stock population, choose *Transaction/Event → Stock Population*.

d) Choose the *Copy* pushbutton.

6. Show the Lorenz curve and the stratification.

a) To show the Lorenz curve, choose *Goto → Lorenz curve → Stock population*.

b) Enter transaction *Stratification*.

c) To show the strata, choose *Goto → List → Stratification → All Variants.*

d) In random selection, you can no longer change the data. Choose *Transaction/ Event → Random Selection*.

7. Show the extrapolation.

a) Choose *Transaction → Update* and then *Transaction → Extrapolation*.

b) Confirm all warnings.

c) Choose *Goto → List → Extrapolation.*

LESSON SUMMARY
You should now be able to:

- Prepare and conduct a sample-based physical inventory

📖 Learning Assessment

1. Which of the following statements is true regarding the cycle counting (CC)?

   Choose the correct answers.

   ☐ **A** The system can determine the due date of the inventory stock unit using CC.

   ☐ **B** The system determines the value of the total requirement of the material from independent requirements only.

   ☐ **C** The system rejects an order if it is not delivered within the assigned time buffer.

   ☐ **D** The system determines the material due date using the planned count date.

2. Which of the following steps do you need to perform to physically count the stock management units of an inventory sampling?

   Choose the correct answers.

   ☐ **A** Form the strata

   ☐ **B** Select the stock management levels

   ☐ **C** Move all inventory to unrestricted-use stock.

   ☐ **D** Receive all open purchase orders (POs).

📖 Learning Assessment - Answers
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1. Which of the following statements is true regarding the cycle counting (CC)?

   Choose the correct answers.

   [X] **A** The system can determine the due date of the inventory stock unit using CC.

   [ ] **B** The system determines the value of the total requirement of the material from independent requirements only.

   [ ] **C** The system rejects an order if it is not delivered within the assigned time buffer.

   [X] **D** The system determines the material due date using the planned count date.

2. Which of the following steps do you need to perform to physically count the stock management units of an inventory sampling?

   Choose the correct answers.

   [X] **A** Form the strata

   [X] **B** Select the stock management levels

   [ ] **C** Move all inventory to unrestricted-use stock.

   [ ] **D** Receive all open purchase orders (POs).

Lesson 1

UNIT OBJECTIVES

- Activate version management for purchasing documents

📖 Deploying Version Management in Purchasing

LESSON OVERVIEW

This lesson gives you an overview of version management in Purchasing.

ℹ️ This lesson is marked as optional. Point out to the participants the advantages of version management for tracing text changes. If you want to discuss this lesson with the participants, first show the Customizing settings for version management. After that, go through an example of the use of versions in purchase orders. The exercises for this lesson are also optional. Carry out the exercises if the participants express interest in them and there is enough time.

Business Example

In your enterprise, purchase requisitions and other purchasing documents are subject to frequent revisions. Therefore, you want to keep track of all changes made to documents after their initial creation. For this reason, you require the following knowledge:

- The advantages of using version management

- How to use version management in Purchasing

- The possible Customizing settings for version management in Purchasing

🖥️ LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Activate version management for purchasing documents

Version Management in Purchasing

As of SAP R/3 Enterprise, you can use the version management facility to generate versions of purchase requisitions and external purchasing documents. A version represents a collection of change documents generated through the further processing of an existing purchase requisition or purchasing document. The version indicates the status of such a document and extends any previously existing change documentation.

🖥️ Version management provides the following advantages for procurement:

- You can easily track changes.

- You can, at any time, check the data that is transmitted to the vendor.

- Communication with the vendor is easier. You can now refer to a certain version of a purchase order when speaking to a vendor's representative on the phone for instance.

- The system documents the changes to long texts. Previously, you could not track changes to long texts. Version management enables you to compare different versions of a text with each other.

How to Activate Version Management

Activate version management.

1. Activate version management for your request for quotation document type A## in purchasing organization 1000.

   Specify that the first version is completed automatically when the request for quotation is created.

   a) Navigate to Customizing for *Materials Management* under *Purchasing → Version Management → Set Up Version Management for External Purchasing Documents*.

   b) Choose the *New Entries* pushbutton.

   c) Select document category *RFQ*. Enter document type **A##** and purchasing organization **1000**.

   d) In the *Control Data* screen area, select the *Version Active* and *Version 0 OK* checkboxes.

   e) Save your entries.

Version Management in Purchase Requisitions

Figure 109: Version Management in Purchase Requisitions (ME51N)

As of SAP R/3 Enterprise, you can generate versions of purchase requisitions.

In Customizing, you can specify the field changes in a purchase requisition that are version-relevant. Only a change to a version-relevant field results in the generation of a new version. Version-relevant fields are defined depending on the document type.

To convert a purchase requisition into a purchase order, the version has to be flagged as *Version Completed*. As the processor of a purchase requisition, you can manually flag versions as *Version Completed*. However, you can also have the first version (version 0, which is created automatically when a purchase requisition is initially created) flagged as *Version Completed* by the system.

Version Management in External Purchasing

Purchase Order

Versions

Status	Version	Ready	Reason	Value change	Created by
	1	☐	01	50.00	Müller
	0	☑		0	Meier

Item	A	I	Material	Short text	Quantity	UoM	...
10	K		99-100	Lubricating oil	100 ⁄ 90	L	...

Figure 110: Version Management in Purchase Orders (ME21N)

As of SAP R/3 Enterprise, you can generate versions of other purchasing documents, such as purchase orders.

However, you cannot output the messages for versions of a document until the system flags the version as *Version Completed*.

In contrast to versions of purchase requisitions, you cannot define version-relevant fields for versions of external purchasing documents in Customizing.

Customizing for Version Management
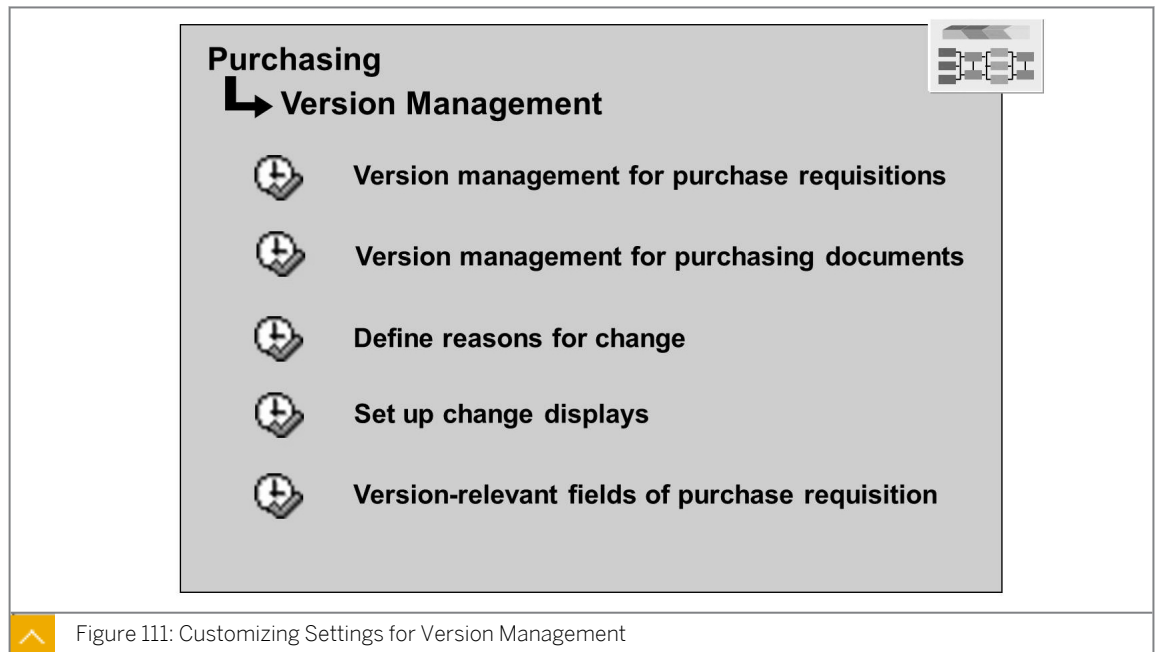
Figure 111: Customizing Settings for Version Management

To be able to use version management, you must first activate it in Customizing for *Purchasing* under *Version Management*.

For purchase requisitions, you activate it depending on the document type.

For external purchasing documents, you activate it depending on the document category, document type, and purchasing organization.

By using field selection, you can stipulate for both purchase requisitions and external purchasing documents whether it is mandatory to record a reason for each relevant change, for instance.

> **Hint:**
> Document types for purchase requisitions that have version management activated can only be used in the EnjoySAP transaction `ME51N`. If you use these document types with the conventional transaction `ME51`, the system outputs an error message.

For purchase requisitions, you set up version management in Customizing for *Materials Management* under *Purchasing → Version Management → Set Up Version Management for Purchase Requisitions*.

For purchase orders, you set up version management in Customizing for *Materials Management* under *Purchasing → Version Management → Set Up Version Management for External Purchasing Documents*.

How to Use Version Management
Test version management.

1. Create a new request for quotation with document type A## for vendor T-K520A##. Request 100 pieces of material T-M520B## for plant 1000. The quotation should be ready and available in a week by the latest. The first delivery date is in four weeks.

   Enter an item text of your choice.

   After you save, make a note of the RFQ number.

   RFQ:

   _____

   _____

   _____

   Output the request for quotation.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Create* (`ME41`).

   b) On the initial screen, enter RFQ type **A##**, the quotation deadline <one week from today>, purchasing organization **1000**, purchasing group **Z##**, the delivery date <four weeks from today>, and plant **1000**. Confirm your entries. This takes you directly to the item overview.

   c) Enter material **T-M520B##** and a quantity of **100**. Confirm your entries.

   d) Select the item and, in the menu, choose *Item → Texts → Text Overview*.

   e) Enter an item text of your choice and then return to the item overview.

   f) Choose ▤ (*Vendor Address*).

   g) Enter vendor **T-K520A##** and save your entries.

   h) If a warning about a missing message record appears, perform the following steps:

   • Choose *Cancel*.

   • Choose ▣ (*Messages*) and enter output type **NEU**. Choose the ▣ *Communication method* pushbutton and enter printer **LP01** in the *Logical destination* field.

   • Return to the message screen and save the RFQ.

   i) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Messages → Print/Transmit* (`ME9A`).

   j) Enter your RFQ number as document number and execute the program.

   k) Select your RFQ and choose the *Output Message* pushbutton.

2. Change the item text in your request for quotation and generate a new version. Complete the version.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Change* (`ME42`).

b) Enter your RFQ number and confirm your entry.

c) Select the item and, in the menu, choose *Item → Texts → Text Overview*.

d) Change the item text and return to the item overview.

e) Choose *Header → Versions*.

f) Choose (*Add new version*). The system generates a new version.

g) In the new version, select the *Completed* checkbox.

h) Save your changes.

3. Check the texts in both versions. Can you still identify the original text?

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Display* (`ME43`).

b) Enter your RFQ number and confirm your entry.

c) Choose *Header → Versions*.

d) To compare the texts, choose (*Display version texts*).

e) Select the two lines that are displayed and choose . You can now see both the new and the original texts.

Activate Version Management

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Business Example

Vendors often raise queries about your request for quotation document type A##. This leads to rebate arrangements between you and the vendors, which you enter in the item text. For you to have an overview of the changes that resulted from the rebate arrangements, you need a history of texts in the request for quotation. For this reason, you must know how to activate version management for your request for quotation document type A##.

Activate version management.

1. Activate version management for your request for quotation document type A## in purchasing organization 1000.

   Specify that the first version is completed automatically when the request for quotation is created.

📖 Activate Version Management

Business Example

Vendors often raise queries about your request for quotation document type A##. This leads to rebate arrangements between you and the vendors, which you enter in the item text. For you to have an overview of the changes that resulted from the rebate arrangements, you need a history of texts in the request for quotation. For this reason, you must know how to activate version management for your request for quotation document type A##.

Activate version management.

1. Activate version management for your request for quotation document type A## in purchasing organization 1000.

   Specify that the first version is completed automatically when the request for quotation is created.

   a) Navigate to Customizing for *Materials Management* under *Purchasing → Version Management → Set Up Version Management for External Purchasing Documents*.

   b) Choose the *New Entries* pushbutton.

   c) Select document category *RFQ*. Enter document type **A##** and purchasing organization **1000**.

   d) In the *Control Data* screen area, select the *Version Active* and *Version 0 OK* checkboxes.

   e) Save your entries.

Test Version Management

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Business Example

Vendors often raise queries about your request for quotation document type A##. This leads to rebate arrangements between you and the vendors, which you enter in the item text. You have activated version management, and now want to view the changes that resulted from the rebate arrangements. For this reason, you must know how to test version management.

Test version management.

1. Create a new request for quotation with document type A## for vendor T-K520A##. Request 100 pieces of material T-M520B## for plant 1000. The quotation should be ready and available in a week by the latest. The first delivery date is in four weeks.

   Enter an item text of your choice.

   After you save, make a note of the RFQ number.

   RFQ:

   _____
   _____
   _____

   Output the request for quotation.

2. Change the item text in your request for quotation and generate a new version. Complete the version.

3. Check the texts in both versions. Can you still identify the original text?

📖 **Test Version Management**

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Business Example

Vendors often raise queries about your request for quotation document type A##. This leads to rebate arrangements between you and the vendors, which you enter in the item text. You have activated version management, and now want to view the changes that resulted from the rebate arrangements. For this reason, you must know how to test version management.

Test version management.

1. Create a new request for quotation with document type A## for vendor T-K520A##. Request 100 pieces of material T-M520B## for plant 1000. The quotation should be ready and available in a week by the latest. The first delivery date is in four weeks.

   Enter an item text of your choice.

   After you save, make a note of the RFQ number.

   RFQ:

   Output the request for quotation.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Create* (`ME41`).

   b) On the initial screen, enter RFQ type **A##**, the quotation deadline <one week from today>, purchasing organization **1000**, purchasing group **Z##**, the delivery date <four weeks from today>, and plant **1000**. Confirm your entries. This takes you directly to the item overview.

   c) Enter material **T-M520B##** and a quantity of **100**. Confirm your entries.

   d) Select the item and, in the menu, choose *Item → Texts → Text Overview*.

   e) Enter an item text of your choice and then return to the item overview.

   f) Choose 🗇 (*Vendor Address*).

   g) Enter vendor **T-K520A##** and save your entries.

   h) If a warning about a missing message record appears, perform the following steps:

   • Choose *Cancel*.

- Choose (*Messages*) and enter output type **NEU**. Choose the *Communication method* pushbutton and enter printer **LP01** in the *Logical destination* field.

  - Return to the message screen and save the RFQ.

  i) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Messages → Print/Transmit* (ME9A).

  j) Enter your RFQ number as document number and execute the program.

  k) Select your RFQ and choose the *Output Message* pushbutton.

2. Change the item text in your request for quotation and generate a new version. Complete the version.

  a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Change* (ME42).

  b) Enter your RFQ number and confirm your entry.

  c) Select the item and, in the menu, choose *Item → Texts → Text Overview*.

  d) Change the item text and return to the item overview.

  e) Choose *Header → Versions*.

  f) Choose (*Add new version*). The system generates a new version.

  g) In the new version, select the *Completed* checkbox.

  h) Save your changes.

3. Check the texts in both versions. Can you still identify the original text?

  a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Display* (ME43).

  b) Enter your RFQ number and confirm your entry.

  c) Choose *Header → Versions*.

  d) To compare the texts, choose (*Display version texts*).

  e) Select the two lines that are displayed and choose . You can now see both the new and the original texts.

LESSON SUMMARY
You should now be able to:

- Activate version management for purchasing documents

📖 Learning Assessment

1. Version management enables you to track changes to long texts and compare different versions of a text with each other.

   Determine whether this statement is true or false.

   ☐ True

   ☐ False

2. Which of the following influences the definition of version-relevant fields for purchase requisitions?

   Choose the correct answer.

   ☐ A Item type

   ☐ B Number of changes

   ☐ C Validity of the document

   ☐ D Document type

3. What should be the status of the version to be able to convert a purchase requisition into a purchase order?

   Choose the correct answer.

   ☐ A Completed

   ☐ B On hold

   ☐ C Parked

   ☐ D Pending

1. Version management enables you to track changes to long texts and compare different versions of a text with each other.

   Determine whether this statement is true or false.

   |X| True

   |_| False

2. Which of the following influences the definition of version-relevant fields for purchase requisitions?

   Choose the correct answer.

   |_| A Item type

   |_| B Number of changes

   |_| C Validity of the document

   |X| D Document type

3. What should be the status of the version to be able to convert a purchase requisition into a purchase order?

   Choose the correct answer.

   |X| A Completed

   |_| B On hold

   |_| C Parked

   |_| D Pending

Master Data

Lesson 1

UNIT OBJECTIVES

- Configure the material master

Configuring the Material Master

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LESSON OVERVIEW

This lesson explains the possible settings to configure the material master.

Business Example

Your company needs a material master dialog that is easier for the users to follow. You have been asked to make the necessary settings.

For this reason, you require the following knowledge:

- An understanding of how to make changes to material master configuration

> Point out that it is better to configure the material master maintenance Customizing settings for groups of users or for the entire company, rather than for individual users.

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Configure the material master

Material Master Configuration – Overview

The material master record contains data for several user departments, for example, purchasing, Material Requirements Planning (MRP), and accounting. One or more views are available to each user department for master record maintenance.

If you do not wish to use all the views, you can configure your own material master dialog, that is, your own screen sequences for maintaining material master records. You can use these screen sequences, depending on various influencing factors.

Adjust the material master and its maintenance to meet the needs of your company.

Perform the following actions to adjust and maintain the material master:

- Specify the structure of data screens.

  A data screen is composed of several individual subscreens. You can remove the subscreens that you do not need from a data screen. You can also replace subscreens with the subscreens from other data screens or with your own subscreens.

- Link screens together in sequences.

  A screen sequence is a series of individual data screens that follow each other. Data screens are subdivided into main screen and additional screens. You can create your own screen sequences for various user groups.

- Specify the order of the main and additional screens.

  Adapt the order of the main and additional screens to your user groups individually for each screen sequence.

- Specify user settings for the maintenance of material master records.

  Specify that a certain industry has to appear as the default value for specific end users. Depending on the user and the screen sequence, you can also assign default values for the views selected in the View Selection dialog box and the organizational levels.

Logical Screens and Subscreens
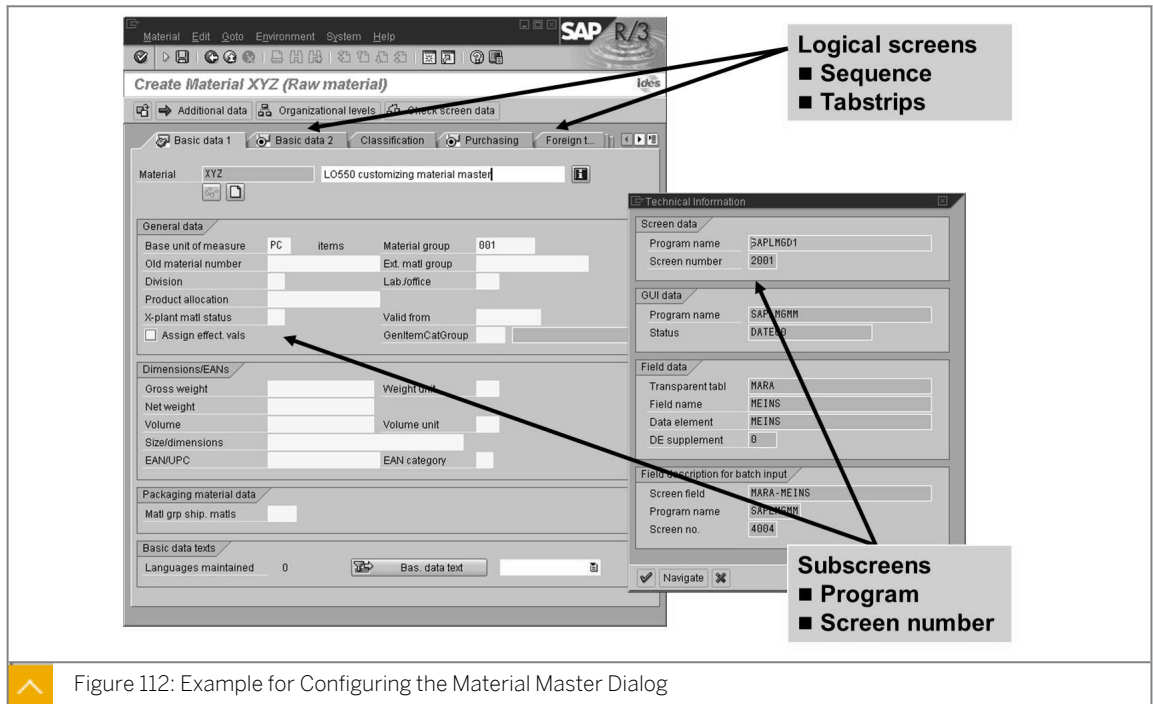
Figure 112: Example for Configuring the Material Master Dialog

The figure shows that the *Basic Data 1* screen consists of several subscreens (framed blocks of fields). View complete information by using *F1 Help → Technical Information* or by using *System → Status*.

A logical screen is a screen that you can choose in the *View Selection* dialog box. A logical screen is composed of a number of individual building blocks known as subscreens. A subscreen container is assigned to each logical screen.

When designing your own logical screens, use either your own subscreens or the existing standard ones.

> **Caution:**
> Plant-specific subscreens (for example, from the *Purchasing* tab) must not be positioned on a client-wide screen (such as *Basic Data*).

Subscreens usually correspond to the individual frames of a logical screen and are processed in the material master dialog.

Use your own subscreens if you want to have different field groupings or use new fields. Create these subscreens by using the *Screen Painter*, which you can access from the *SAP Easy Access* screen by choosing *Tools → ABAP Workbench → Development → User Interface → Screen Painter*.

Screen Painter is a tool for designing or configuring the screen according to user needs.

For more information, see the documentation for the Customizing activity (*Create Program for User Dependent Subscreens*).

▶ **How to Create a User-Specific Subscreen**

1. Customize the subscreens activity.

   a) Call the *Create Program for Customized Subscreens* activity.

   b) Enter **ZMAT** as the function group and save it as a local object.

   c) Execute transaction `SE80` (*Object Navigator*).

   d) In the navigation structure, choose *Program*, enter **SAPLMGD1** in the empty field and choose *Enter*.

   e) In the area in the lower-left corner, select *Screens* and then screen *2301*.

   f) In the context menu, choose *Copy*.

   g) Change the entry in the *To Program* field to `SAPLZMAT` and choose *Continue*.

2. Assign a new screen and activate it.

   a) In the navigation structure, change the function group from *MGD1* to *ZMAT* and choose *Enter*.

   b) Select *Screens* and choose screen *2301*.

   c) In the context menu, choose *Activate*. Confirm the next dialog box.

   d) Assign the new screen to your screen sequence by choosing the *Define Structure of Data Screens for Each Screen Sequence* activity.

3. Configure the settings and data for the assigned screen.

   a) Edit the *Purchasing data* screen in your new screen sequence and replace the *SAPLMGD1 2301* subscreen with the new subscreen *SAPLZMAT 2301*.

   b) Call the material that will use your new screen sequence.

   c) Modify the subscreen as desired using the *Screen Painter* by selecting a field within the subscreen and select *F1*. Choose *Technical Information* and double-click the subscreen number. This starts the *Screen Painter*. Use the *Layout* pushbutton to maintain the changes, for example, integrate a pushbutton if you previously created a new pushbutton function code in the *Assign Secondary Screens* activity.

   Append structures are available in the Data Dictionary (DDIC) for inserting fields.

   > 💡 Hint:
   > Users have to use their own programs to insert fields from their tables and their subscreen containers for material master record maintenance.

Screen Sequences

Figure 113: Configuring the Material Master – Screen Sequence
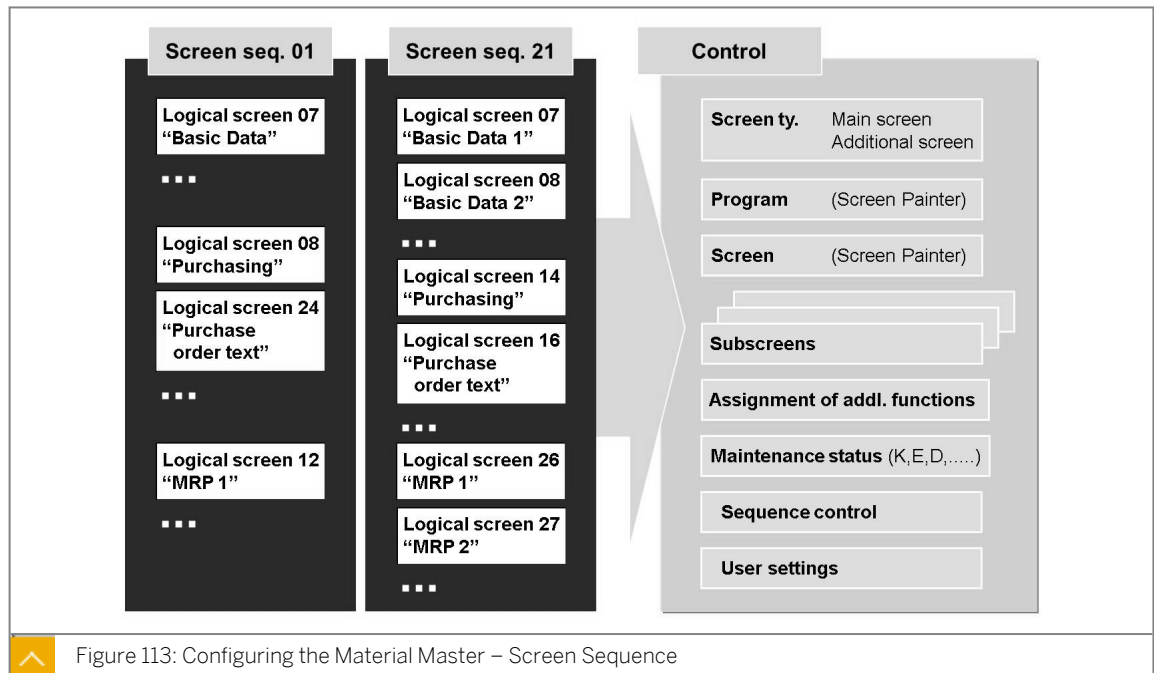
A screen sequence is a series of linked data screens used for the maintenance of material master records. Set up screen sequences for various user groups. You can also set up the sequencing for processing different types of materials or materials belonging to different industries.

SAP supplies various standard screen sequences. In the above example, the screen sequences *01*, *11*, and *21*, differ in the number of data screens and the layout (in the form of tab pages, for instance). Screen sequence *21* is preset for industrial customers. In this screen sequence, the system distributes the data fields so that the users do not have to scroll on any tab page.

The screen sequence is defined by a two-character key. Customers have their own namespace.

A screen sequence comprises several logical screens.

Each logical screen consists of a subscreen container and its associated subscreens. The number of subscreens depends on the subscreen container that you choose. If you need fewer subscreens than the number of subscreens that a subscreen container allows, the SAP system uses the dummy subscreen *0001* as a placeholder.

There are subscreen containers for the following screens:

- Main screens (the screens that appear at the principal work level)

- Additional screens (the screens that are called using the additional data)

- Non configurable screens (for example, initial screens)

Standard subscreens (program *SAPLMGD1*) have a maximum of 10 rows and exactly 83 columns. They can have a frame and a short description.

The maintenance status of the relevant logical screen must agree with the maintenance status of the fields that logical screen contains, for example, EL - only purchasing and storage data are allowed.

Assign function codes PBxx to the additional or secondary screens so that they can be called from a main screen by using a pushbutton. Integrate the pushbuttons into the main screens by using the *Screen Painter*.

Definition of Screen Sequences

Dialog Structure	S...	S...	Screen description	T	SCon	Maint. status	GUI status	TT	Alt. screen descrip.
▽ ☐ Screen sequences	21	07	Basic Data 1	1	4004	K	DATE00	2	Basic data 1
▽ ☐ Data screens	21	08	Basic Data 2	1	4004	K	DATE00	2	Basic data 2
☐ Subscreens	21	09	Sales: Sales Org. Data 1	1	4000	V	DATE00	2	Sales: sales org. 1
	21	10	Sales: Sales Org. Data 2	1	4000	V	DATE00	2	Sales: sales org. 2
	21	11	Sales: General/Plant Data	1	4000	V	DATE00	2	Sales: general/plant
	21	12	Foreign Trade: Export Data	1	4004	V	DATE00	2	Foreign trade export
	21	13	Sales Text	1	4040	V	DATELT00	2	Sales text
	21	14	Purchasing	1	4000	E	DATE00	2	Purchasing
	21	15	Foreign Trade: Import Data	1	4000	E	DATE00	2	Foreign trade import
	21	16	Purchase Order Text	1	4040	E	DATELT00	2	Purchase order text
	21	17	Production Resources/Tools	1	4000	F	DATE00	2	Prod.resources/tools
	21	18	General Plant Data / Storage 1	1	4000	L	DATE00	2	Plant data / stor. 1
	21	19	General Plant Data / Storage 2	1	4000	L	DATE00	2	Plant data / stor. 2

Figure 114: Screen Sequences

The figure provides an overview of data screens for standard screen sequence *21*.

Data Screens

Dialog Structure	S...	Scrn	Ss	Program	Scr.
▽ ☐ Screen sequences	21	14	1	SAPLMGD1	1001
▽ ☐ Data screens	21	14	2	SAPLMGD1	2301
☐ Subscreens	21	14	3	SAPLMGD1	2302
	21	14	4	SAPLMGD1	2313
	21	14	5	SAPLMGD1	0001
	21	14	6	SAPLMGD1	0001

View...
View data screen
View subscreen
Move subscreen
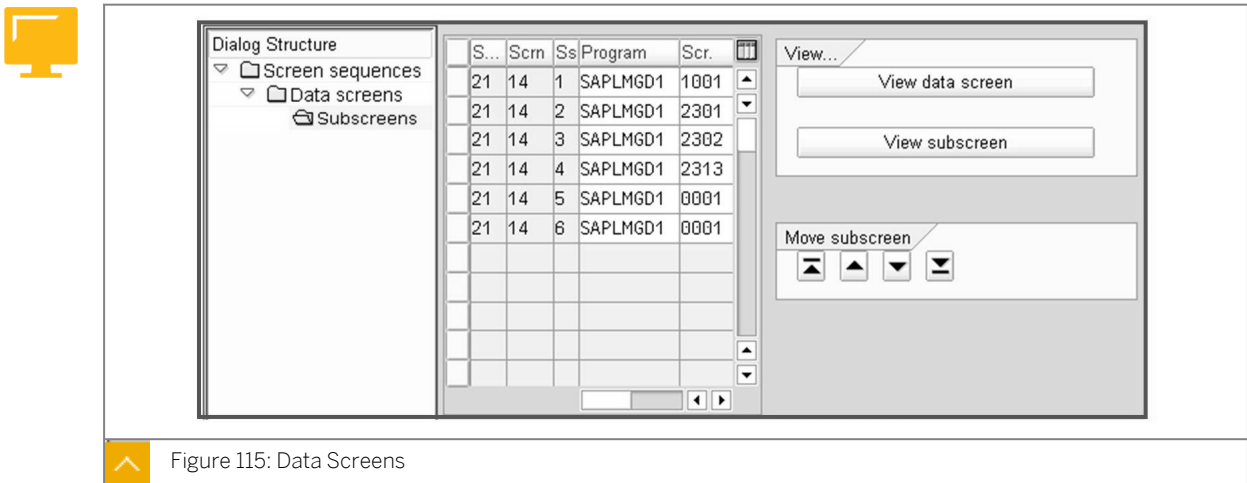
Figure 115: Data Screens

The figure shows the details of data screen *14* (purchasing).

Subscreen container *4000*, assigned to data screen *14*, allows a maximum of six subscreens. The last two rows contain the empty subscreen *0001* as a placeholder because the <mark>standard system provides only four subscreens for the *Purchasing* data screen.</mark>

Assignment of Screen Sequences for Material Master
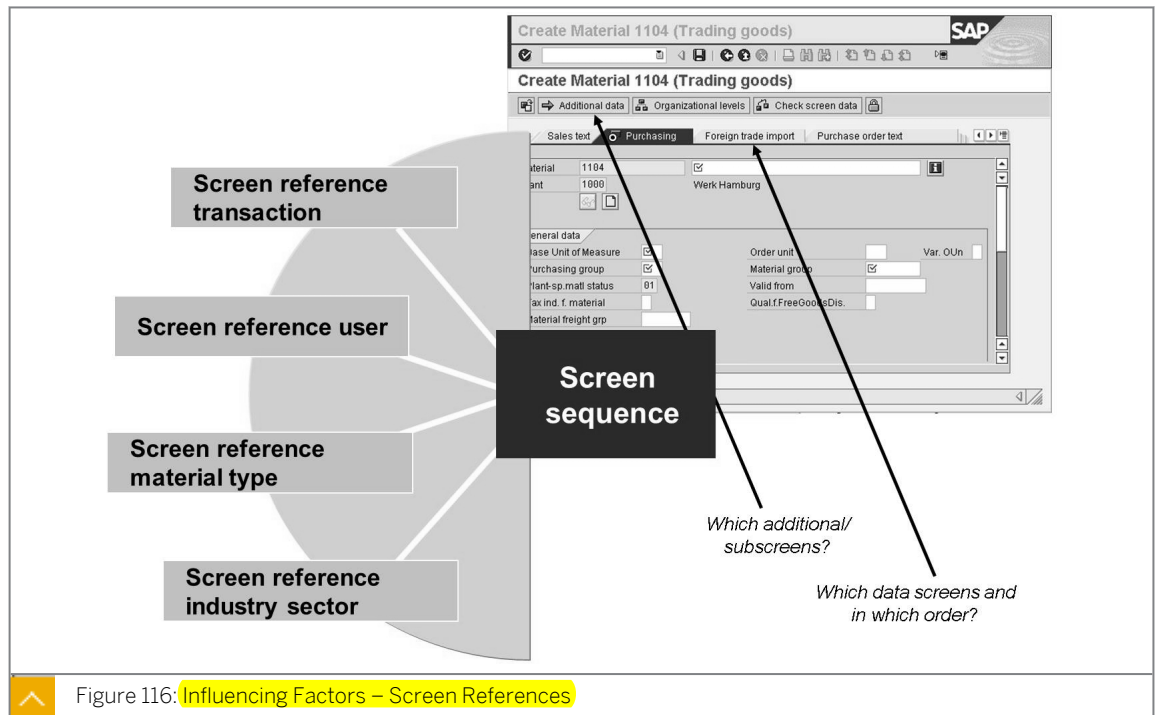
Figure 116: Influencing Factors – Screen References

Various influencing factors are used to determine the screen sequence in material master maintenance.

Assign screen sequences using groupings of transactions, users, material types, and industry sectors. These groupings are known as screen references.

The following are the screen references affecting the assignment of screen sequences:

* Screen reference transaction

  Create a transaction group by assigning the same selectable screen reference to various transactions. In the standard SAP system, the transactions for the standard material master for industry are grouped under screen reference 01. The system assigns the transactions for the standard article master for SAP Retail to screen reference *03*.

* Screen reference user

  Create a grouping of users by assigning the same freely selectable screen reference to various users.

* Screen reference material type

  Form groups of material types by assigning the same freely selectable screen reference to the material types. You can also use *Define Attributes of Material Types* to maintain the screen reference entered for a material type. For example, the standard SAP system assigns a separate screen reference for manufacturer parts to call a special screen sequence *12*.

* Screen reference industry sector

  Form groups of several industries in the same way. A short description of the screen reference is freely definable for groups of industries.

Assignment of Screen Sequences

Screen reference Transaction	Screen reference User	Screen reference Material type	Screen reference Industry sector	Screen sequence
01	*	*	*	21
01	SAMPLE	ROH	M	Z1
01	SAMPLE	*	*	Z2
01	*	ROH	M	Z3
01	*	ROH	*	Z4

Figure 117: Screen Sequence – Influencing Factors
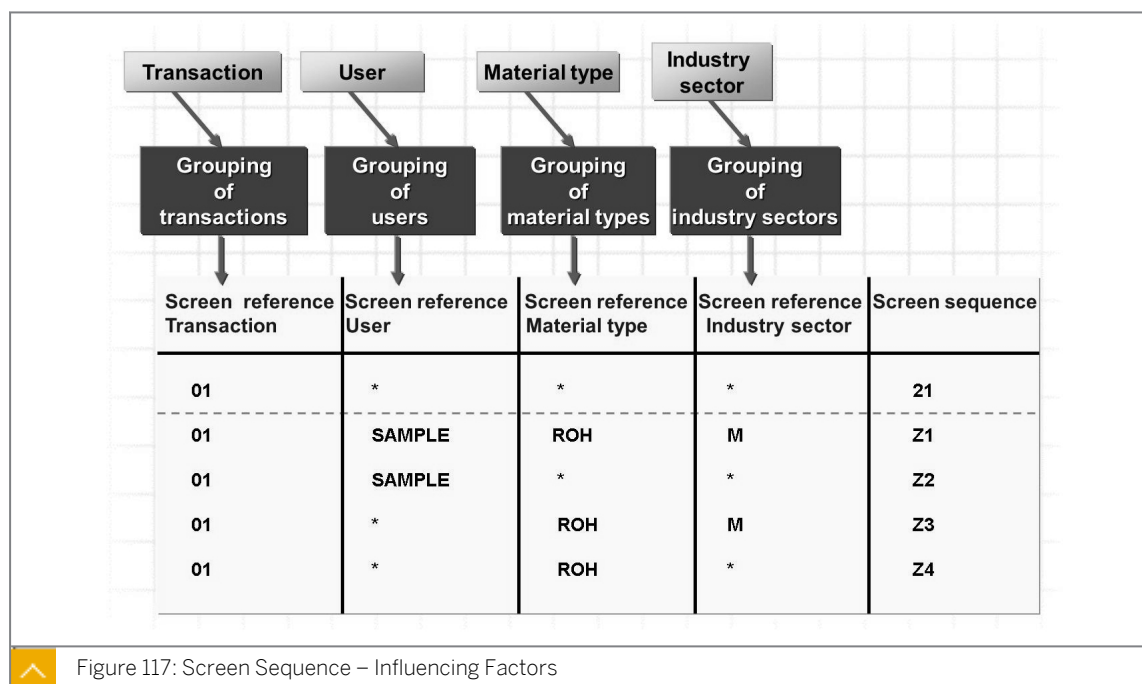
After completing the groupings, specify the prerequisites and the conditions under which each screen sequence is to be used.

When assigning the required screen sequences, you can reduce the number of table entries to a minimum by using a wildcard function with an asterisk (*).

The first table entry in the figure means that all transactions and all users, irrespective of the material type and industry sector (standard in an SAP industry system), use the standard screen sequence *21*.

If further table entries exist, the first entry has the lowest priority. The asterisk (*) stands for any screen reference and can determine the screen sequence when precise specifications have not been made.

The assignment of screen sequences *Z1* to *Z4* in the figure reflects the priorities of table entries.

In the example shown in the figure, screen sequence Z1 is called under the following conditions:
- The user has been assigned to the user screen reference *SAMPLE*.

- The material type used has been assigned to the material type screen reference *ROH*.

- The industry used has been assigned to the industry sector screen reference *M*.

If all conditions are not fulfilled simultaneously, the screen sequences are called using the wildcard function (*), as follows:
- If conditions 2 and 3 are not fulfilled but condition 1 is fulfilled, screen sequence *Z2* is used.

- If condition 1 is not fulfilled, but conditions 2 and 3 are fulfilled, screen sequence *Z3* is used.

- If only condition 2 is fulfilled, screen sequence *Z4* is used.

- If none of the three conditions is fulfilled, screen sequence *21* is used.

> **Hint:**
> In addition to the documentation on the individual activities, you will find an example of the procedure for individual configuration at the beginning of the *Configuring the Material Master* node in Customizing.

How to Define and Assign Screen Sequences for Material Master Records

Demonstrate how customers change Customizing settings and introduce the ways that customers can adjust an SAP system to meet their company's requirements.

1. Show that the logical screen comprises a number of subscreens by taking an example of *Purchasing* view of the *Change Material* transaction (`MM02`) for material *M-01*.

   a) Explain that during maintenance of the purchasing data for materials belonging to material type *GR00*, for example, the environment data (subscreen *2010* from the standard view *Basic Data 2*) and shelf life data (subscreen *2702* from the standard view *General Plant Data/Storage 1*) need to be offered.

2. Define a new screen sequence *XO* by copying screen sequence *21*.

   a) On the Purchasing data screen, there are two placeholders (subscreen *0001*). Replace these placeholders with the specified subscreens. Change the title of the data screen to *Purchasing/Environment*.

   b) Show the specification of the sequence of main and additional screens (by moving the *Consumption* tab page to the top, for example, making it the first additional screen).

3. To prevent the new screen sequence *XO* from continually being called during the rest of the course, specify that this screen sequence is valid only for your user name, material type (create own screen sequence), and industry sector C (create own screen reference).

4. Create a new material master record with the specified conditions (user name, material type, and industry sector C) (*Purchasing* view).

   a) The environment data (subscreen *2010*) becomes visible, whereas the shelf life data (subscreen *2702*) is not visible. Explain why the second subscreen does not appear.

   b) In the standard system, each field in subscreen *2702* has only the maintenance status *L*. In *Customizing*, go to *Logistics – General → Material Master → Field Selection → Assign Fields to Field Selection Groups*.

5. Assign the additional maintenance status *L* to the *Purchasing/Environment data* screen (*EL*).

   a) With the conditions your user name, material type *GR00*, and industry sector *C*, create a new material master record (only the *Basic Data 1* and *Purchasing/Environment* views). Both new subscreens become visible.

   b) Save your entries.

   c) Change the new material master record. Using *View Selection*, show that not only the basic and purchasing data but also the storage data has been created.

Configure the Material Master

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Business Example

An analysis and comparison of your company's master data and processes indicate that it would be advantageous to display or maintain the *Environmentally Relevant* and *DG Indicator Profile* indicators together with the purchasing data for materials of your new material type.

The individual user departments have different tasks to complete and different data to maintain in the material master record; so, it is important that these special changes become effective only for your own material type *GR##* and for selected users (your exercise group SCM550-##).

Configure the material master.

Task 1

Check the layout of the data screens for screen sequences.

1. View the *DG Indicator Profile* and *Environmentally Rlvt* fields in the material master record.

   In the standard system, these fields are present in the *Basic Data 2* view. Find out the number of the subscreen that contains these fields. How do you proceed?

   _____

   _____

   _____

2. How can you ensure that the subscreen with the *Environmentally Rlvt* and *DG Indicator Profile* fields in the *Purchasing* view is displayed or can be maintained only in the case of your material type *GR##* and only by certain users (your exercise group SCM550-##)?

   Describe the Customizing settings necessary to ensure the display and maintenance of screens.

   _____

   _____

   _____

Task 2

Define a new screen sequence.

1. Carry out all necessary activities based on your description. Name your new screen sequences as follows:

Group	Screen Sequence
00	X0
01	X1
02	X2
03	X3
...	...
09	X9
10	Y0
11	Y1
12	Y2

Group	Calendar ID
13	Y3
14	Y4
15	Y5
16	Y6
17	Y7
18	Y8
19	Y9
20	Z0
21	Z1
22	Z2
23	Z3
24	Z4
25	Z5
26	Z6
27	Z7
28	Z8
29	Z9
30	ZA

Create a new screen sequence by copying the existing screen sequence *21* (tab pages). Name the screen sequence as indicated in the table.

Enter a description for your new screen sequence.

2. Change the data screen for purchasing so that it contains the fields of subscreen *2010* (*Environment*).

3. Define a screen sequence for your user name. Use your two-character group number (##) as the key.

4. Define a screen sequence for your material type. Use *M##* as the key.

5. Assign your new screen sequence from subtask 1 to the screen references for your user and material type. Create a new entry in accordance with the following table:

Groups 0 – 9	Groups 10 – 19	Groups 20 – 29	Group 30
01	*01*	*01*	*01*
##	*##*	*##*	*##*
M##	*M##*	*M##*	*M##*
M	*M*	*M*	*M*
X#	*Y#*	*Z#*	*ZA*

Task 3

Test the new screen sequence.

1. Check the configuration of your screen sequence.

   Test your settings for the new material type. To test the settings, change the material master record you created for your material type *GR##*.

   Check whether you can maintain the *DG Indicator Profile* and *Environmentally Rlvt* fields in the *Purchasing* view.

2. Is the configuration of the material master record plant-dependent?

   _____

   _____

   _____

3. Test your settings for material type *ROH*.

   Check whether the *DG Indicator Profile* and *Environmentally Rlvt* fields can be maintained in the *Purchasing* view for material *R-T1##* in plant *1000*.

Configure the Material Master

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Business Example

An analysis and comparison of your company's master data and processes indicate that it would be advantageous to display or maintain the *Environmentally Relevant* and *DG Indicator Profile* indicators together with the purchasing data for materials of your new material type.

The individual user departments have different tasks to complete and different data to maintain in the material master record; so, it is important that these special changes become effective only for your own material type *GR##* and for selected users (your exercise group SCM550-##).

Configure the material master.

Task 1

Check the layout of the data screens for screen sequences.

1. View the *DG Indicator Profile* and *Environmentally Rlvt* fields in the material master record.

   In the standard system, these fields are present in the *Basic Data 2* view. Find out the number of the subscreen that contains these fields. How do you proceed?

   ---

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Display → Display Curren*t (`MM03`).

   b) On *Display Material (Initial Screen)*, enter **M-##** in the *Material* field and choose the *Select View(s)* pushbutton.

   c) In the *Select View(s)* dialog box, enter *Basic Data 2* from the *View* screen area and choose *Continue*.

   d) On the *Display Material M-## (Trading goods)* screen, on the *Basic Data 2* tab page, position the cursor on the *Environmentally Rlvt* field and press F1 to call the *Performance Assistant* (*Help*).

   e) In the *Performance Assistant* dialog box, choose the *Technical Information* pushbutton.

   In the *Technical Information* dialog box, the *Screen Number* field has the value *2010.* Instead of using *F1 help,* you can also determine the screen number by using *System → Status*. Note the number of the subscreen for the program *SAPLMGD1.*

2. How can you ensure that the subscreen with the *Environmentally Rlvt* and *DG Indicator Profile* fields in the *Purchasing* view is displayed or can be maintained only in the case of your material type *GR##* and only by certain users (your exercise group SCM550-##)?

Describe the Customizing settings necessary to ensure the display and maintenance of screens.

---

a) Copy an existing screen sequence.

b) Adjust this new screen sequence.

c) Assign a separate screen reference (for example, *M##*) to the new material type in order to distinguish it from the other material types.

d) Assign a separate screen reference (such as *Z1*) to your user group, *SCM550-##*, to distinguish it from the other groups.

e) In this case, for the assignment of the new screen sequence, use the new screen reference *Z1* for your users and the new screen reference *M##* for the material type *GR##*.

Task 2

Define a new screen sequence.

1. Carry out all necessary activities based on your description. Name your new screen sequences as follows:

Group	Screen Sequence
00	*X0*
01	*X1*
02	*X2*
03	*X3*
...	*...*
09	*X9*
10	*Y0*
11	*Y1*
12	*Y2*

Group	Calendar ID
13	*Y3*
14	*Y4*
15	*Y5*
16	*Y6*
17	*Y7*
18	*Y8*

Group	Calendar ID
19	*Y9*
20	*Z0*
21	*Z1*
22	*Z2*
23	*Z3*
24	*Z4*
25	*Z5*
26	*Z6*
27	*Z7*
28	*Z8*
29	*Z9*
30	*ZA*

Create a new screen sequence by copying the existing screen sequence *21* (tab pages). Name the screen sequence as indicated in the table.

Enter a description for your new screen sequence.

a) In *Customizing*, go to *Logistics – General → Material Master → Configuring the Material Master → Define Structure of Data Screens for Each Screen Sequence*.

b) On the *Change View "Screen Sequences": Overview* screen, select the row for screen sequence *21* and choose ▣ (*Copy As*).

c) Replace *21* in the *SSq* field by the key specified in the exercise (`X#`, `Y#` or `Z#`) and enter a description (such as `screen sequence ##`) in *Screen seq. description* field and choose *Continue*.

2. Change the data screen for purchasing so that it contains the fields of subscreen *2010* (*Environment*).

a) In *Customizing*, go to *Logistics – General → Material Master → Configuring the Material Master → Define Structure of Data Screens for Each Screen Sequence*.

b) On the *Change View "Screen Sequences": Overview* screen, select the row for screen sequence (row sequence X#, Y#, or Z#) and then double-click the *Data screens* node in the *Dialog Structure* tree.

c) On the *Change View "Data Screen": Overview* screen, select the row for screen sequence *14* (*Purchasing*). In the *Dialog Structure* tree double-click the *Subscreens* node.

d) On the *Change View "Subscreens": Overview* screen, there are six subscreens in which the last two count as empty; however, subscreen *0001* represents an empty subscreen.

e) Replace subscreen *5* with the subscreen containing the environment-relevant fields (subscreen *2010*).

f) Save your entries.

3. Define a screen sequence for your user name. Use your two-character group number (##) as the key.

a) In *Customizing*, go to *Logistics – General → Material Master → Configuring the Material Master → Assign Screen Sequences to User/Material Type/Transaction/Industry Sector*.

b) On the *Change View "User screen reference": Overview* screen, double-click the *User screen reference* node in the *Dialog Structure* tree and then choose the *New Entries* pushbutton.

c) On the *New Entries: Overview of Added Entries* screen, enter the following data:

Field Name or Data Type	Value
Name	`SCM550-##`
SRef: user	`##`

d) Save your entries.

4. Define a screen sequence for your material type. Use *M##* as the key.

a) In *Customizing*, go to *Logistics – General → Material Master → Configuring the Material Master → Assign Screen Sequences to User/Material Type/Transaction/Industry Sector*.

b) On the *Change View "Screen sequence control": Overview* screen, double-click the *Material type screen reference* node in the *Dialog Structure* tree.

c) In the *SRef: matl type* column, change the value from *ROH* to *M##* for your material type *GR##*.

d) Save your entries.

> **Hint:**
> The new screen reference is also displayed after you save it under *Define Attributes of Material Types*.

5. Assign your new screen sequence from subtask 1 to the screen references for your user and material type. Create a new entry in accordance with the following table:

Groups 0 – 9	Groups 10 – 19	Groups 20 – 29	Group 30
01	*01*	*01*	*01*
##	*##*	*##*	*##*
M##	*M##*	*M##*	*M##*
M	*M*	*M*	*M*
X#	*Y#*	*Z#*	*ZA*

a) In *Customizing*, go to *Logistics – General → Material Master → Configuring the Material Master → Assign Screen Sequences to User/Material Type/Transaction/ Industry Sector*.

b) On the *Change View "Screen sequence control": Overview* screen, choose the *Screen sequence control* node in the *Dialog Structure* tree.

c) Choose the *New Entries* pushbutton.

d) On the *New Entries: Overview of Added Entries* screen, enter the following data:

Field Name or Data Type	Value
SRef: trans	`01`
SRef: user	`##`
SRef: matl type	`M##`
SRef: industry	`M`
Ssq	`X#`, `Y#`, `Z#`, `ZA`

Enter in the *Ssq* field one of the listed values according to the task.

e) Save your entries.

Task 3

Test the new screen sequence.

1. Check the configuration of your screen sequence.

   Test your settings for the new material type. To test the settings, change the material master record you created for your material type *GR##*.

   Check whether you can maintain the *DG Indicator Profile* and *Environmentally Rlvt* fields in the *Purchasing* view.

   a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Change → Immediately* (`MM02`).

   b) On the *Create Material (Initial Screen)*, enter 200000### in *Material* field and choose the *Select View(s)* pushbutton.

   c) In the *Select View(s)* dialog box, select the *Purchasing* view and choose *Continue*.

   d) In the *Organizational Levels* dialog box, choose *1000* or *TR##* in the *Plant* field and choose *Continue*.

   e) On the *Create Material 200000### (Material Type ##)* screen, the *Purchasing* tab page now also includes the *Environment* subscreen.

2. Is the configuration of the material master record plant-dependent?

a) No; neither the settings for the screen sequence nor the assignment of a screen sequence are plant-dependent.

3. Test your settings for material type *ROH*.

Check whether the *DG Indicator Profile* and *Environmentally Rlvt* fields can be maintained in the *Purchasing* view for material *R-T1##* in plant *1000*.

a) On the *SAP Easy Access* screen, choose *Logistics → Materials Management → Material Master → Material → Change → Immediately* (`MM02`).

b) On *Change Material (Initial Screen)*, enter `R-T1##` in the *Material* field and choose the *Select View(s)* pushbutton.

c) In the *Select View(s)* dialog box, select the *Purchasing* view, and choose *Continue*.

d) In the *Organizational Levels* dialog box, choose `1000` in the *Plant* field and choose *Continue*.

The *Purchasing* view does not include the *Environment* subscreen.

Material *R-T1##* is of material type *ROH*. Material type *ROH* is not assigned to your new screen reference for material types (*M##*).

Therefore, your new screen sequence is not called during the display and maintenance of raw materials.

LESSON SUMMARY
You should now be able to:

- Configure the material master

📖 Learning Assessment
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1. For which objects can you define screen references?

   Choose the correct answers.

   ☐ **A** Plants

   ☐ **B** Users

   ☐ **C** Industry sectors

   ☐ **D** Purchasing groups

2. Which of the following screens can you configure in Customizing?

   Choose the correct answers.

   ☐ **A** Order of main screens

   ☐ **B** Order of fields on a subscreen

   ☐ **C** Function codes for main screens

   ☐ **D** Function codes for secondary screens

3. Which program can you use to create your own subscreens?

   Choose the correct answer.

   ☐ **A** Object navigator

   ☐ **B** Screen writer

   ☐ **C** Screen editor

   ☐ **D** Screen painter

4. In which order do you configure the material master?

   Choose the correct answer.

   ☐ **A** Subscreens → Screen Sequence → Data screens

   ☐ **B** Data screens → Subscreens → Screen Sequence

   ☐ **C** Screen Sequence → Data screens → Subscreens

   ☐ **D** Screen Sequence → Subscreens → Data screens

Learning Assessment - Answers

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1. For which objects can you define screen references?

   Choose the correct answers.

   ☐ **A** Plants

   ☒ **B** Users

   ☒ **C** Industry sectors

   ☐ **D** Purchasing groups

2. Which of the following screens can you configure in Customizing?

   Choose the correct answers.

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4. In which order do you configure the material master?

    Choose the correct answer.

    ☐ **A** Subscreens → Screen Sequence → Data screens

    ☐ **B** Data screens → Subscreens → Screen Sequence

    ☒ **C** Screen Sequence → Data screens → Subscreens

    ☐ **D** Screen Sequence → Subscreens → Data screens