

SAP MM

MATERIAL MASTER FOR BEGINNERS

Learn in 1
DAY

KRISHNA RUNGTA

SAP Material Master For Beginners

By Krishna Rungta

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Chapter 1: Master Data

Introduction to Master Data

What is Master Data?

Master data in SAP is used as a base for any transaction. If you are producing, transferring stock, selling, purchasing, doing physical inventory, whatever your activity may be , it requires certain master data to be maintained. We have material master data, customer master data, vendor master data, pricing/conditions master data, warehouse management master data (storage bin master data) etc.

The ones we will focus in MM module are material master and purchase info record.

Material Master: What you should know about material master?

Material in SAP is a logical representation of certain goods or service that is an object of production, sales, purchasing, inventory management etc. It can be a car, a car part, gasoline, transportation service or consulting service, for example.

All the information for all materials on their potential use and characteristics in SAP are called material master. This is considered to be the most important master data in SAP (there are also customer master data, vendor master data, conditions/pricing master data etc), and all the processing of the materials are influenced by material master. That is why it's crucial to have a precise and well maintained material master.

In order to be confident in your actions you need to understand material master views and its implications on processes in other modules, business transactions and a few more helpful information like tables that store material master data, transactions for mass material maintenance (for changing certain characteristics for a large number of materials at once).

Material types

In SAP ERP, every material has a characteristic called “*material type*” which is used throughout the system for various purposes.

Why is it essential to differentiate between material types and what does that characteristic represent?

1. It can represent a type of origin and usage – like a finished product (produced goods ready for sale), semifinished product (used as a part of a finished product), trading goods (for resale), raw materials (used for production of semifinished and finished products) etc. These are some of the predefined

SAP material types among others like food, beverages, service and many others.

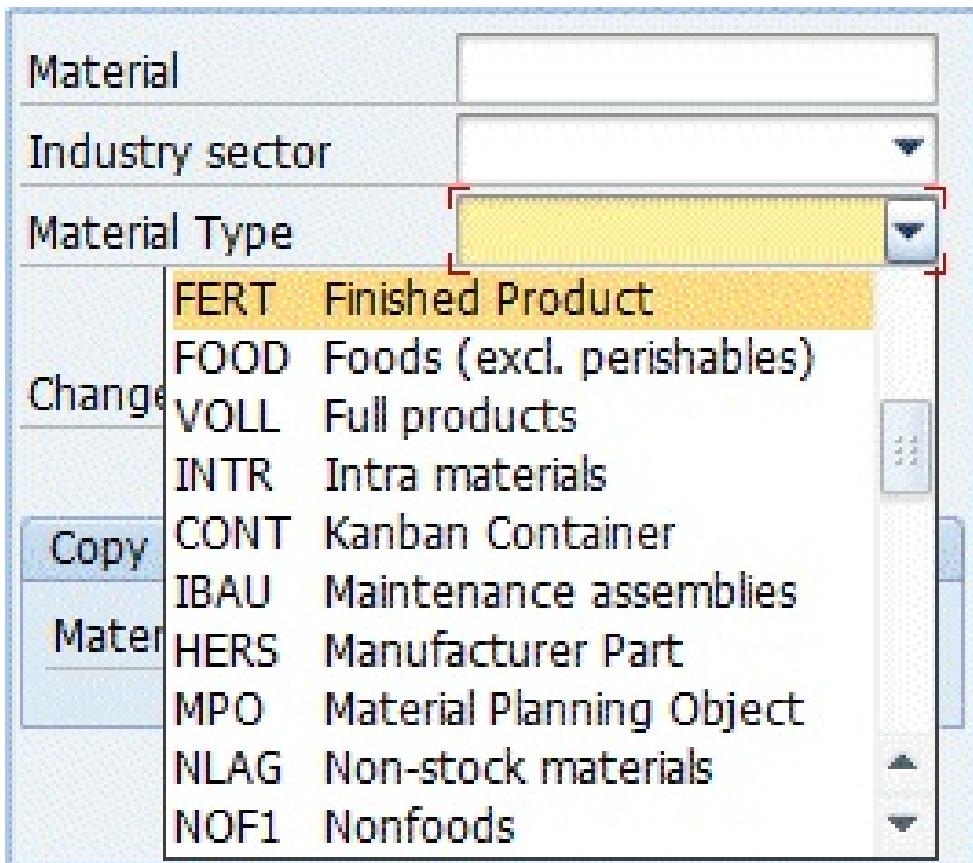
2. We can define our custom material types if any of standard ones doesn't fulfill our need.

MTyp	Material type description
FERT	Finished Product
HALB	Semifinished Product
HAWA	Trading Goods
ROH	Raw materials

Most used material types in standard SAP installation

What can be configured on material type level (possible differences between types)?

1. Material master views: It defines the views associated with a Material Type. For example, if we have a material type “FERT” assigned to our material Product 1000 – we don’t want to have Purchasing based views for that material because we don’t need to purchase our own product – it is configured on material type level.
2. Default price control: we can set this control to standard or moving average price (covered later in detail), but this can be changed in material master to override the default settings.
3. Default Item category group: used to determine item category in sales documents. It can be changed in material master to override the default settings.
4. internal/external purchase orders, special material types indicators, and few more.



Offered material types in MM01 transaction

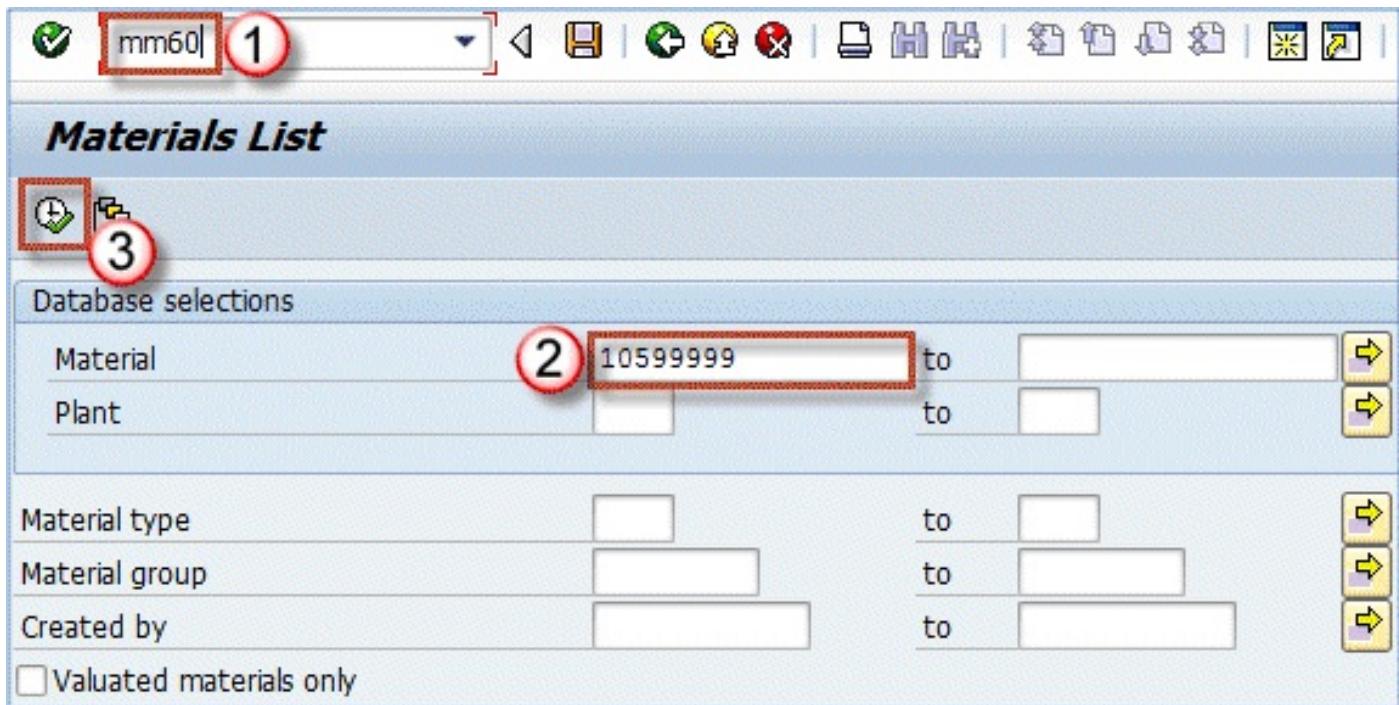
So material type is assigned to materials that have the same basic settings for material master views, price control, item category group and few other. Material Type can be assigned during the creation of the material in t-code MM01 (covered in detail later)

Where can we find a complete list of materials with their respective material type?

There are numerous transactions for this. The raw data itself is stored in MARA table

(you can view table contents with t-code SE16 or SE16N – newest version of the transaction), but in some systems these t-codes aren't allowed for a standard user. In such cases, we can easily acquire the list with t-code MM60 (Material list). MM60 is used particularly often as it displays a lot of basic material characteristics.

Selection screen – you can enter only the material number:



Selection screen for MM60 transaction

We can see that material 10410446 in plant AR01 is of type FERT (finished product).

Material	Plant	Val. Type	Description	Last Change	MTyp	Matl Group	Unit
10599999	0001		LCD TV 40"	07.05.2013	FERT		PCS

MM60 report results with the export button highlighted

Using the toolbar button highlighted on screen, we can export the list of materials we have selected on screen.

Material group

Another characteristic SAP material is assigned during its creation is “*material group*”, which can represent a group or subgroup of materials based on certain criteria.

Which criteria can be used to create material groups?

Any criteria that suit your needs for reporting purposes is right for your system. You may group materials by the type of raw material used to produce it (different kinds of plastics used in the production process), or you can divide all services into consulting services (with different materials for SAP consulting, IT consulting, financial consulting etc), transportation services (internal transport, international transport), you can also group by production technique (materials created by welding, materials created by extrusion, materials created by injection etc).

Grouping depends mainly on the approach your management chooses as appropriate, and it's mainly done during the implementation, rarely changes in a productive environment.

The screenshot shows the SAP Material Master (MM01) and Material Group selection (MM60) interface. In the Material Master screen, material number 10599999 is selected, and the material group '100' is highlighted. On the right, a list of material groups from 100 to 107 is shown, with '100' also highlighted. A legend at the top right indicates icons for various functions like creation, deletion, and search.

Matl Group	Material Group Desc.
100	Material group 100
101	Material group 101
102	Material group 102
103	Material group 103
104	Material group 104
105	Material group 105
106	Material group 106
107	Material group 107

Assigned material group in material master

In addition, there is a material hierarchy (used mostly in sales & distribution) that can also be used for grouping, but it's defined almost always according to sales needs as it is used for defining sales conditions (standard discounts for customers, additional discounts, special offers).

On the other hand, material group is mainly used in PP and MM module.

If you need to display material groups for multiple materials, you can use already mentioned t-code MM60. You just need to select more materials in selection criteria.

Material	Plant	Val. Type	Description	Last Change	MTyp	Matl Group	Unit
10599999	0001		LCD TV 40"	08.05.2013	FERT	100	PCS

Material group in report MM60

Material group is easily subject to mass maintenance via transaction MM17. More on that in the material master editing section.

How to Create Material master data

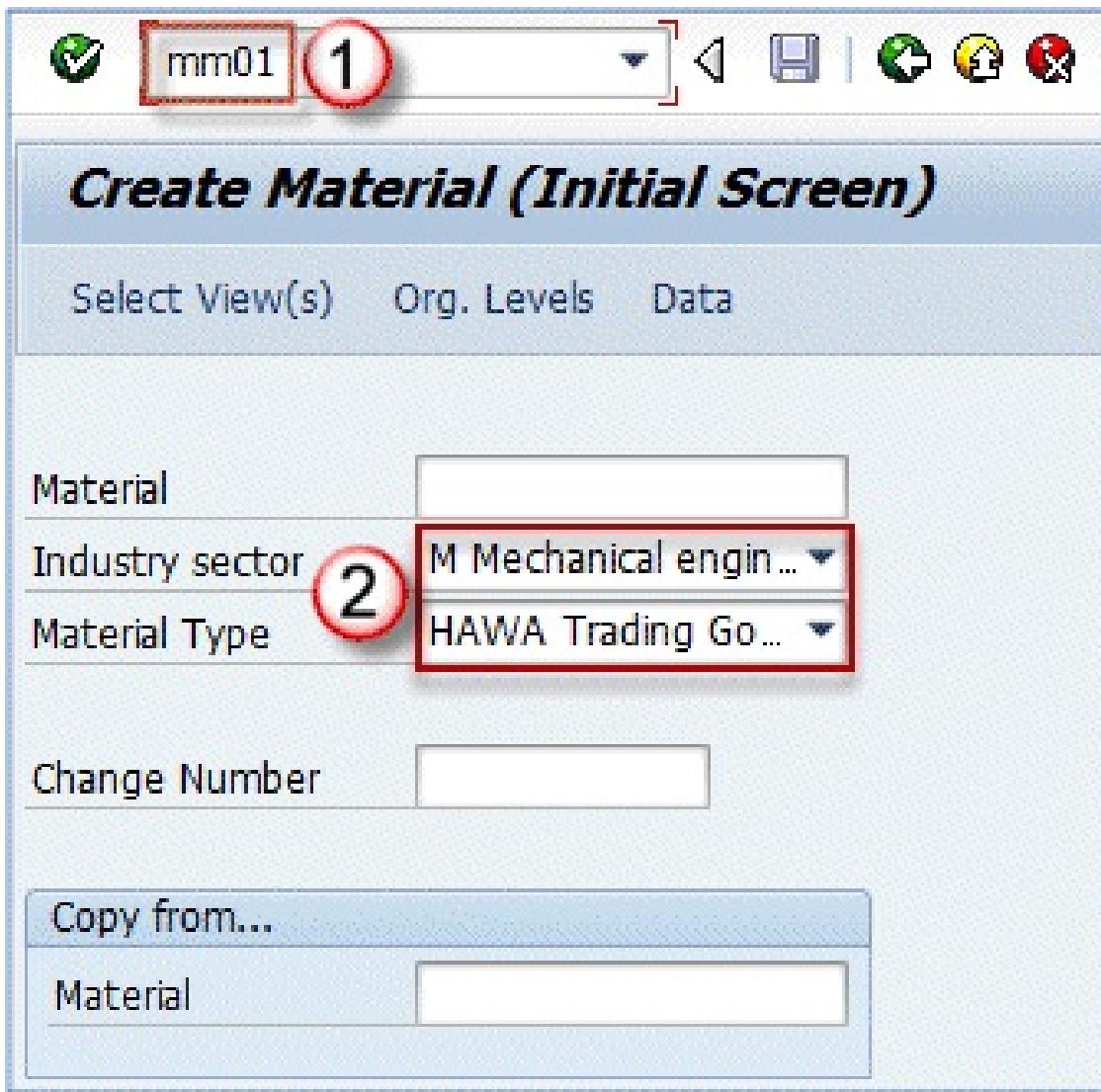
When we want to use a new material in SAP, we have to define its characteristics, in order to control its behaviour in all of the transactions. Every material is created in either of these two ways:

1. By calling transaction MM01 (mostly used in a productive environment)
2. Mass creation (mainly used only once on transition of materials from the previous system into SAP ERP)

We will focus now on transaction **MM01**, and leave the mass creation for later since it is an advanced tool. We will discuss it after you have enough knowledge about material master views and organizational levels.

Step 1) Transaction that is used for the creation of material master record, as stated above is **MM01**. The execution of the transaction brings us to the initial screen, which consists of few fields that contain the basic information on our material.

1. Enter Industry sector (mostly used: M-Mechanical engineering)
2. Enter Material type, (it can be FERT, ROH, HALB, HAWA - the appropriate material type for current material)

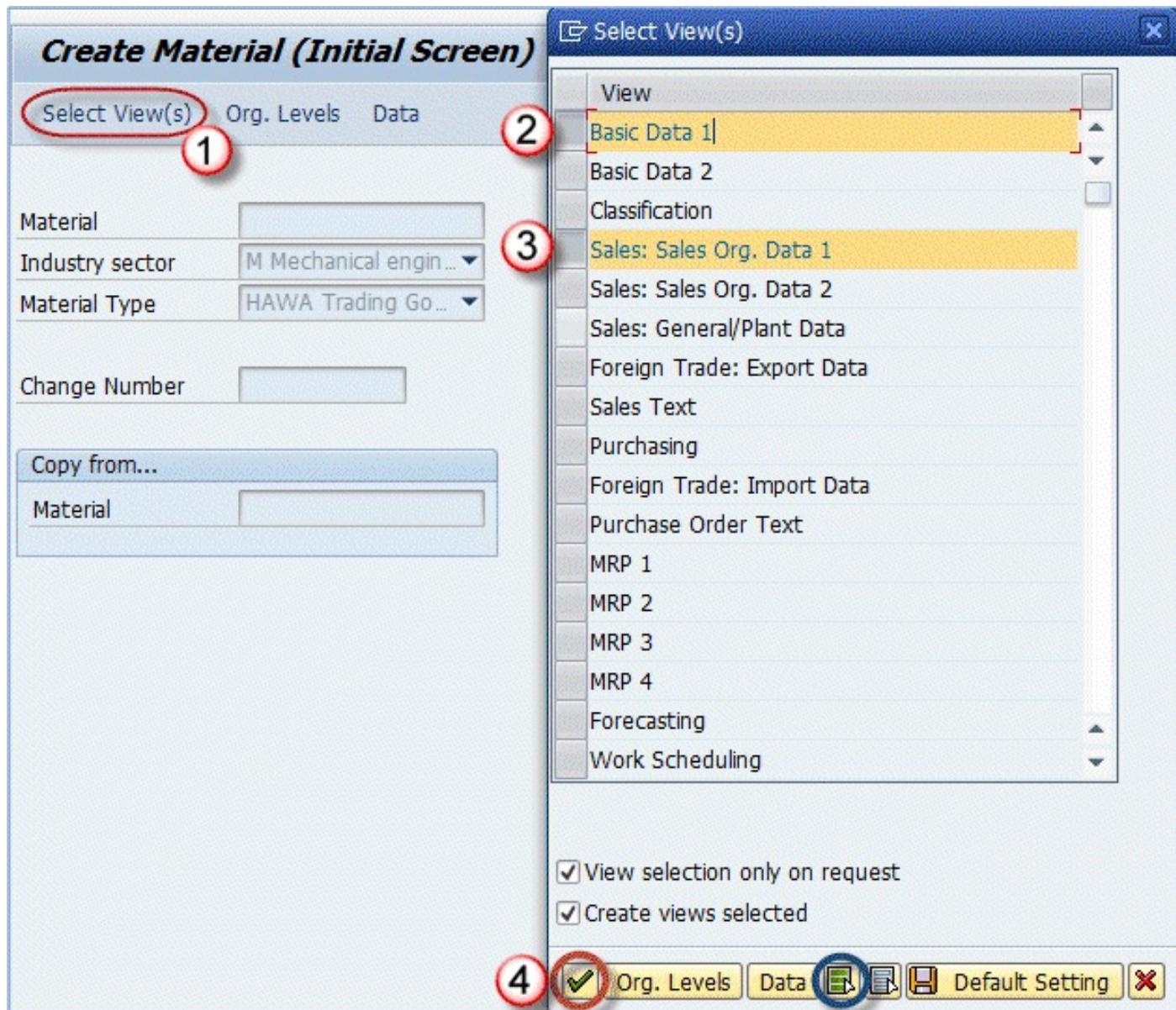


Note: Material number (alphanumeric key uniquely identifying material in SAP system) can be generated automatically or assigned manually – it depends on material type. For material type HAWA for example, you can have manual number assignment, while for FERT you can have automatic number assignment. These settings are supposed to be done by MM consultant in customizing during the implementation.

Step 2) We can choose which master data to create.

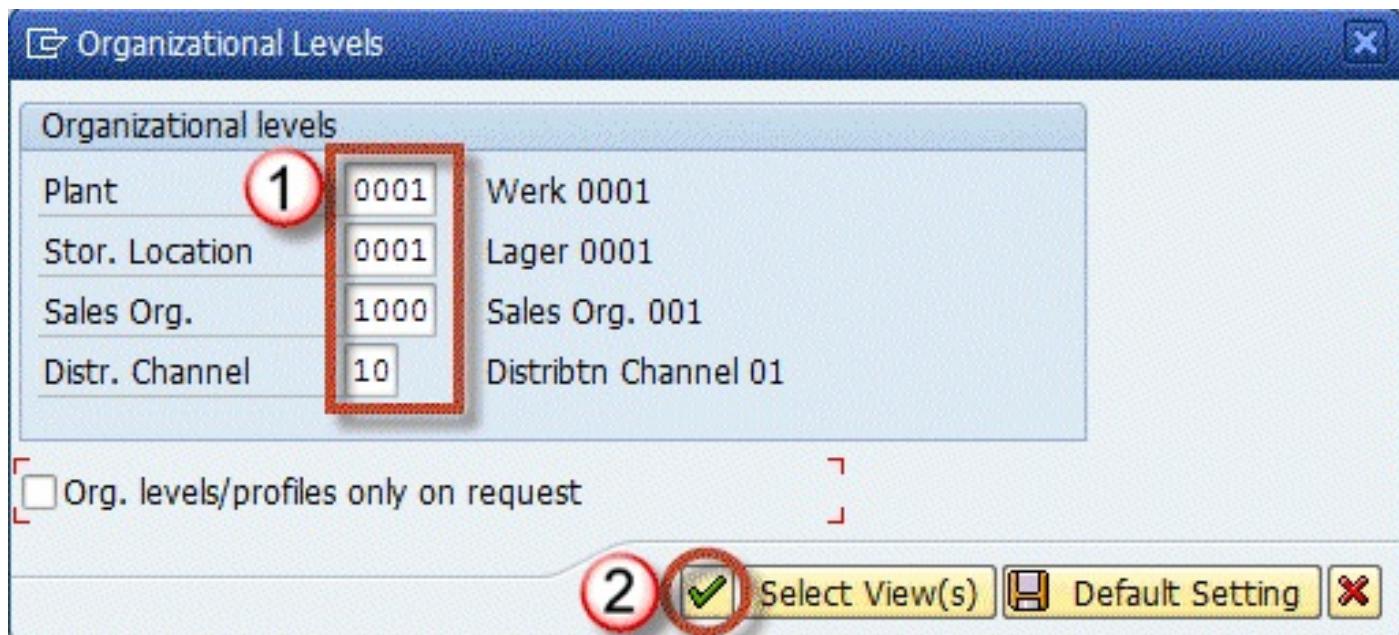
1. We can click on **Select View(s)** to choose which views we need to create for the material.
2. Select Basic Data 1
3. Select Sales Org Data 1. You can always extend the material master data later if you forgot to choose all needed views.
4. Select the Check Mark. You can see an option button marked in blue on the screen below for selecting all views (rarely used in a productive environment).

Note: Selection of views that can be maintained for material depends on material type. In most of the systems some views are disabled for certain material types (for example MRP views might be disabled for trading goods).



Step 3) In the next screen

1. Enter Organizational levels for the views we selected in the previous step. For example, those could be Plant, Storage Location, Sales Organization and Distribution Channel etc.
2. Click the Check Button

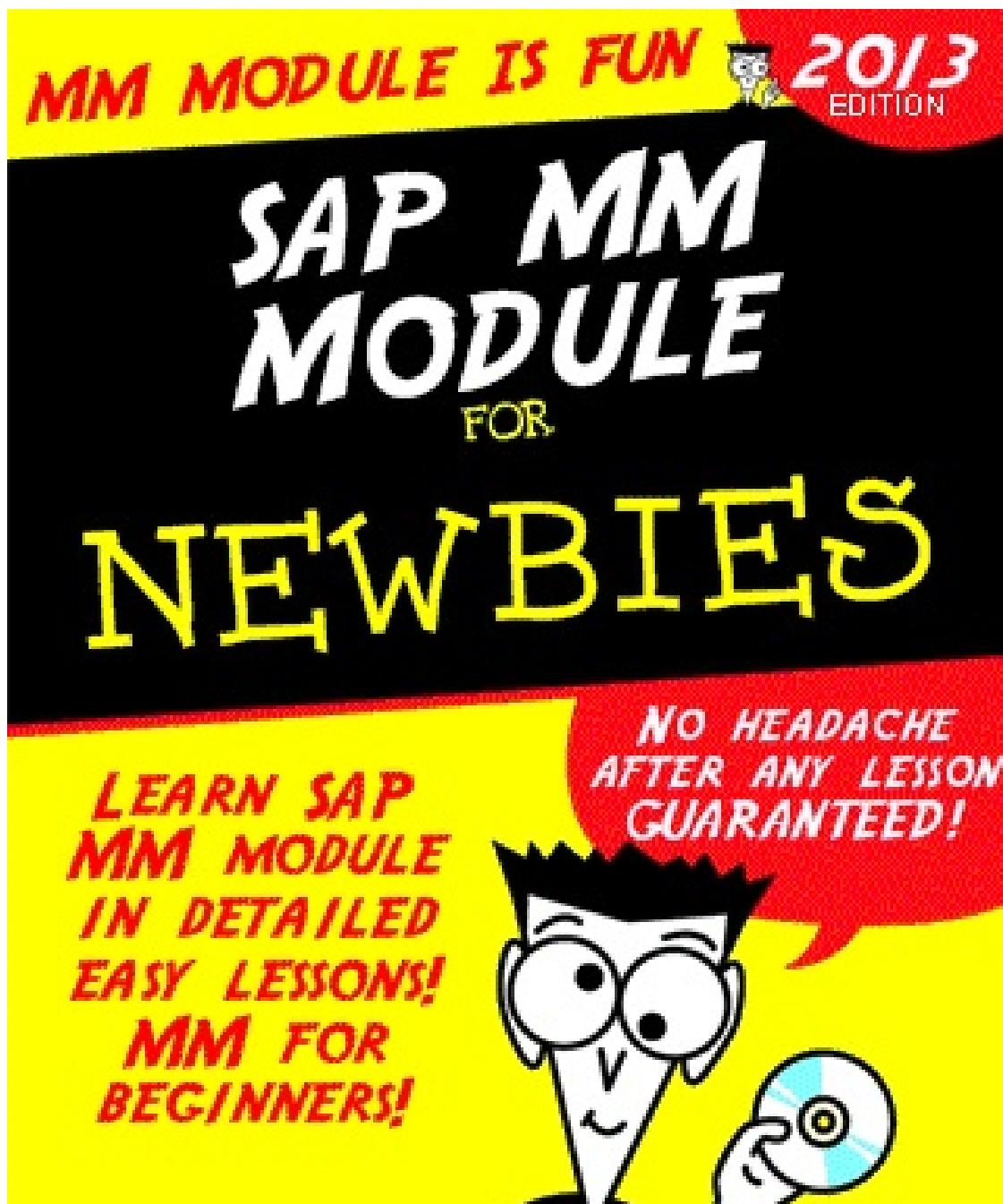


Below you can find a complete reference of organizational levels needed for creating material master views.

Material Master View	Organizational Levels
Basic data (1 & 2)	None
Classification	None
Sales organization data (1 & 2)	Plant, Sales Organization, Distribution Channel
Sales General	Plant
Foreign Trade – Export data	Plant
Purchasing	Plant
MRP Views	Plant, Storage Location, MRP Profile
Forecasting	Plant, Forecasting Profile
Work Scheduling	Plant
General Plant Data (Storage 1 & 2)	Plant, Storage Location
Warehouse Management 1	Plant, Warehouse Number
Warehouse Management 2	Plant, Warehouse Number, Storage Type
Quality Management	Plant
Accounting (1 & 2)	Plant

Table of material master views connection to organizational levels

IMPORTANT: You need to maintain materials in all of your organizational levels in which they are going to be used. If you have more than one plant than you have to repeat MM01 transaction in order to extend your materials for both plants. If you have more than one combination of Sales organization/Distribution channel you also have to repeat the process in MM01 for all of the combinations.



How to Change Material Master

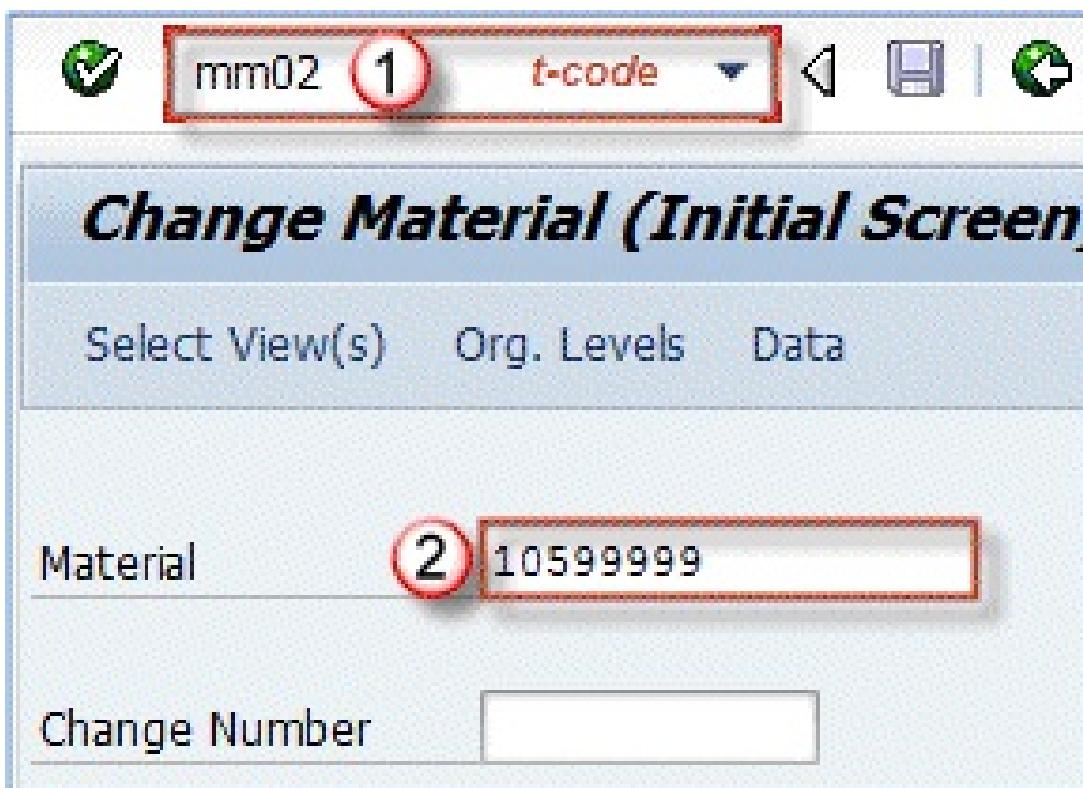
It may be needed to change certain option in our material master (due to the organizational changes, or changes in processes). We cannot use MM01 as that is the transaction code used only for creating views that are not maintained for certain material. In this case, we need to use MM02 and MM03 transaction codes.

In SAP transactions ending with 01 are for creating, ending with 02 for editing/changing, and the ones ending in 03 are used for viewing data without possibility to change it.

Process to change Material Master

Step 1)

1. Enter transaction code MM02 in the command prompt
2. Enter the material number whose material master data we want to change.



Step 2)

1. The next step is choosing the views for which data is to be changed. For example, we will choose sales organization data 2 view. You can choose one or more organizational levels for change.
2. Click on Organizational Levels



3. Organizational level selection

Step 3

1. Make the desired changes.
2. Click the check button.



Step 4) After you have made the changes , you can check the changes in the corresponding view

Matl statistics grp	'A' Material	Material pricing grp		
1	01	01	Normal	
Volume rebate group	Maximum Reb_	Acct assignment grp	03	
Gen. item cat. grp	Standard item	Item category group	NORM	Standard item
Pricing Ref. Matl				
Product hierarchy	0010000001	LCD TV 40"		
Commission group	01	Commission Group 1		

Product attributes		
<input type="checkbox"/> Product attribute 1	<input type="checkbox"/> Product attribute 2	<input type="checkbox"/> Product attribute 3
<input type="checkbox"/> Product attribute 4	<input type="checkbox"/> Product attribute 5	<input type="checkbox"/> Product attribute 6
<input type="checkbox"/> Product attribute 7	<input type="checkbox"/> Product attribute 8	<input type="checkbox"/> Product attribute 9
<input type="checkbox"/> Product attribute 10		

Step 5) Click the save button , to save the changes **NOTE:**You can use transaction MM03 to display Material Master Data. In MM03, we can only display data without the possibility to change it (fields are greyed out).

Sales: sales org. 1

Sales: sales org. 2

Sales: General/Plant

Foreign trade ...

Material 10599999

LCD TV 40"



Sales Org. 0001

Sales Org. 001

Distr. Chl 01

Distribtn Channel 01

Grouping terms

Matl statistics grp	1	'A' Material	Material pricing grp	01	Normal
Volume rebate group	01	Maximum Reb...	Acct assignment grp	03	
Gen. item cat. grp	NORM	Standard item	Item category group	NORM	Standard item
Pricing Ref. Matl			LCD TV 40"		
Product hierarchy	0010000001				
Commission group	01	Commission Group 1			

Product attributes

- | | | |
|---|--|--|
| <input type="checkbox"/> Product attribute 1 | <input type="checkbox"/> Product attribute 2 | <input type="checkbox"/> Product attribute 3 |
| <input type="checkbox"/> Product attribute 4 | <input type="checkbox"/> Product attribute 5 | <input type="checkbox"/> Product attribute 6 |
| <input type="checkbox"/> Product attribute 7 | <input type="checkbox"/> Product attribute 8 | <input type="checkbox"/> Product attribute 9 |
| <input type="checkbox"/> Product attribute 10 | | |

How to Copy Material Master

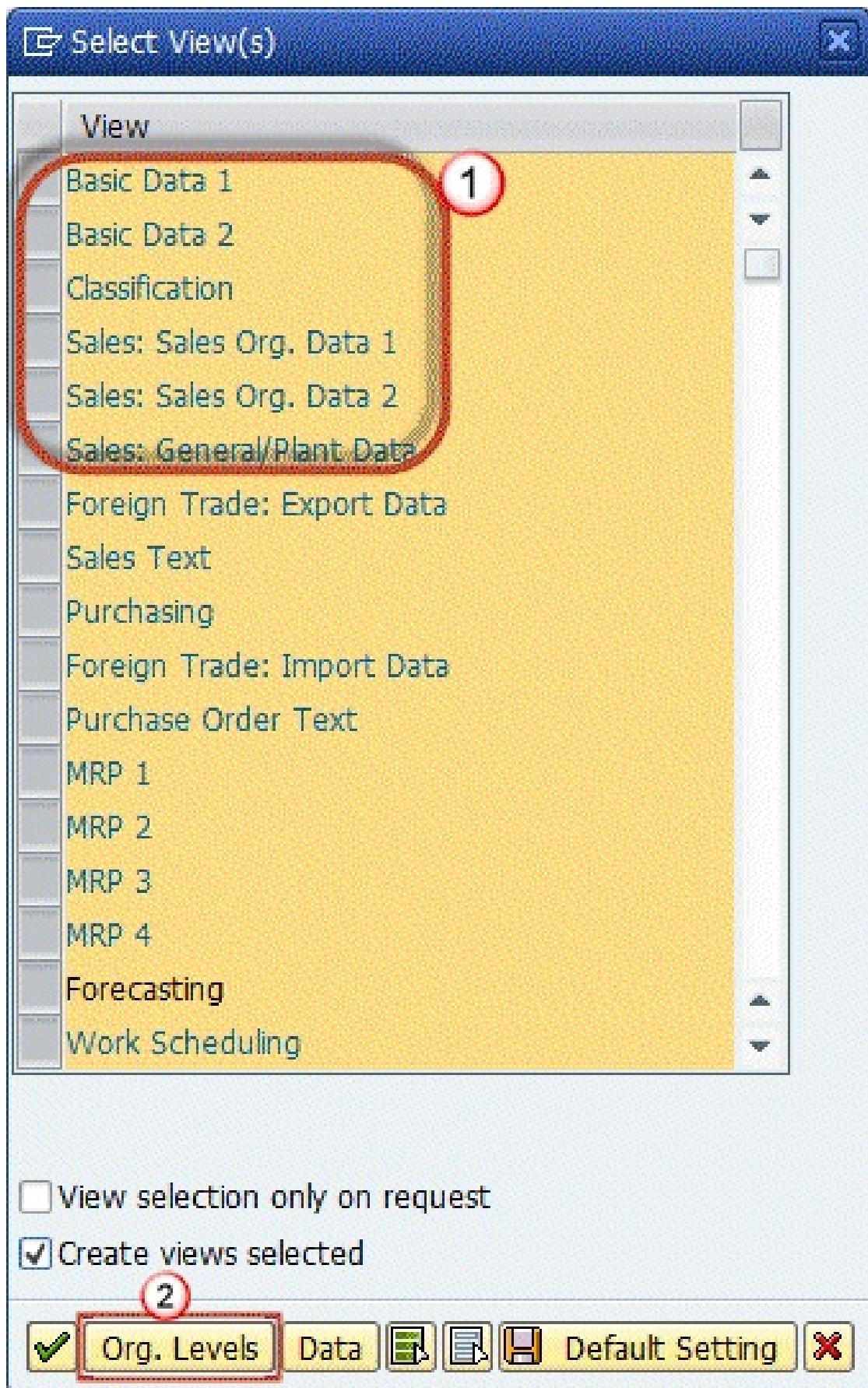
In this tutorial we will go through the process of copying an existing material master data into new material

Step 1) In transaction MM01

1. Enter material number that you want to create.
2. Enter our existing material from which we want to copy the data.
3. Click on **Select Views** button.

Step 2)

1. Select the views you need to copy to new material
2. Click Org levels



Step 3

1. You can choose which organizational levels will be created for our new material.
2. And from which organizational levels of reference material master data

should be copied.

3. Confirm.

Organizational Levels

Organizational levels	Copy from
Plant 1	Werk 0001 2
Stor. Location	Sales Org. 001
Sales Org.	Distribtn Channel 01
Distr. Channel	D.C. Peštan Bukovik
Warehouse No.	
Storage Type	

Profiles

MRP profile
Forecast prof.

Org. levels/profiles only on request

3 Select View(s) Default Setting

Step 4) You are presented a screen for view maintenance. You can select any view and change data to a value that differs from the reference material. For example, weight and description.

1. Changing material description as this is our 24" model not 40".
2. Changing gross weight.
3. Changing net weight.

Basic data 1 Basic data 2 Classification Sales: sales org. 1

Material 10599997 LCD TV 24" 1

General data			
Base Unit of Measure	PCS	Piece	Material Group 100
Old material number		Ext. Matl Group	
Division	10	Lab/Office	
Product allocation		Prod.hierarchy	
X-plant matl status		Valid from	
<input type="checkbox"/> Assign effect. vals		GenItemCatGroup NORM	Standard item

Material authorization group			
Authorization Group			

Dimensions/EANs			
Gross Weight	20,790	Weight unit	KG
Net Weight	18,843		
Volume		Volume unit	
Size/dimensions			
EAN/UPC		EAN Category	

You should check all the other view and change the material specific data. You should go through the additional data (descriptions for other languages, units of measure) as this data should be different for our new material.

Step 5) Click the save button. Material is created



Mass Creation of Material Master

In order to create multiple materials at once, you should have access to a function like

1. **eCatt tool**
2. **LSMW**(Legacy System Migration Workbench)
3. **BDC** (Batch Data Communication) recordings
4. **BAPI** (Business Application Programming Interface)

You can also use mass maintenance transaction **MM17** to create views in some cases. But you must keep in mind that not all of the organizational levels should contain the same data (MM17 requires that all data for the materials and organizational levels you select should be the same).

Mass creation is never considered to be end users responsibility. But as a module specialist you may need to work on **MM17**. In case of LSMW, BDC or BAPI, it is considered to be developers or consultants work. So you do not have to understand in detail, you just have to know the concept, and that there is this kind of possibility for mass data maintenance.

You can use MM17 for mass changing of material master data (if something can't be accomplished by this transaction it can be done using LSMW, BDC or BAPI).

Step 1)

1. Enter transaction MM17
2. Select the data type you need to change, for example, we need to change a field in general data.
3. Execute.

The screenshot shows the SAP Mass Maintenance: Materials (industry) interface. At the top, there are status icons and a menu bar. Below the menu is a toolbar with various icons. The main title is "Mass Maintenance: Materials (industry)". A toolbar below the title has a green checkmark icon, a red circle with the number 1, and a red circle with the number 3. The "Tables" tab is selected in the navigation bar. The table below lists material-related tables:

Short Description	Table Name
General Material Data	MARA
Material Descriptions	MAKT
Plant Data for Material	MARC
Material Valuation	MBEW
Storage Location Data for Material	MARD
Units of Measure for Material	MARM
Sales Data for Material	MVKE
Forecast Parameters	MPOP
Planning Data	MPGD_MASS
Tax Classification for Material	MLAN
Material Data for Each Warehouse Number	MLGN
Material Data for Each Storage Type	MLGT

Step 2)

1. Enter the material range or list for which we want to change the data
2. Execute

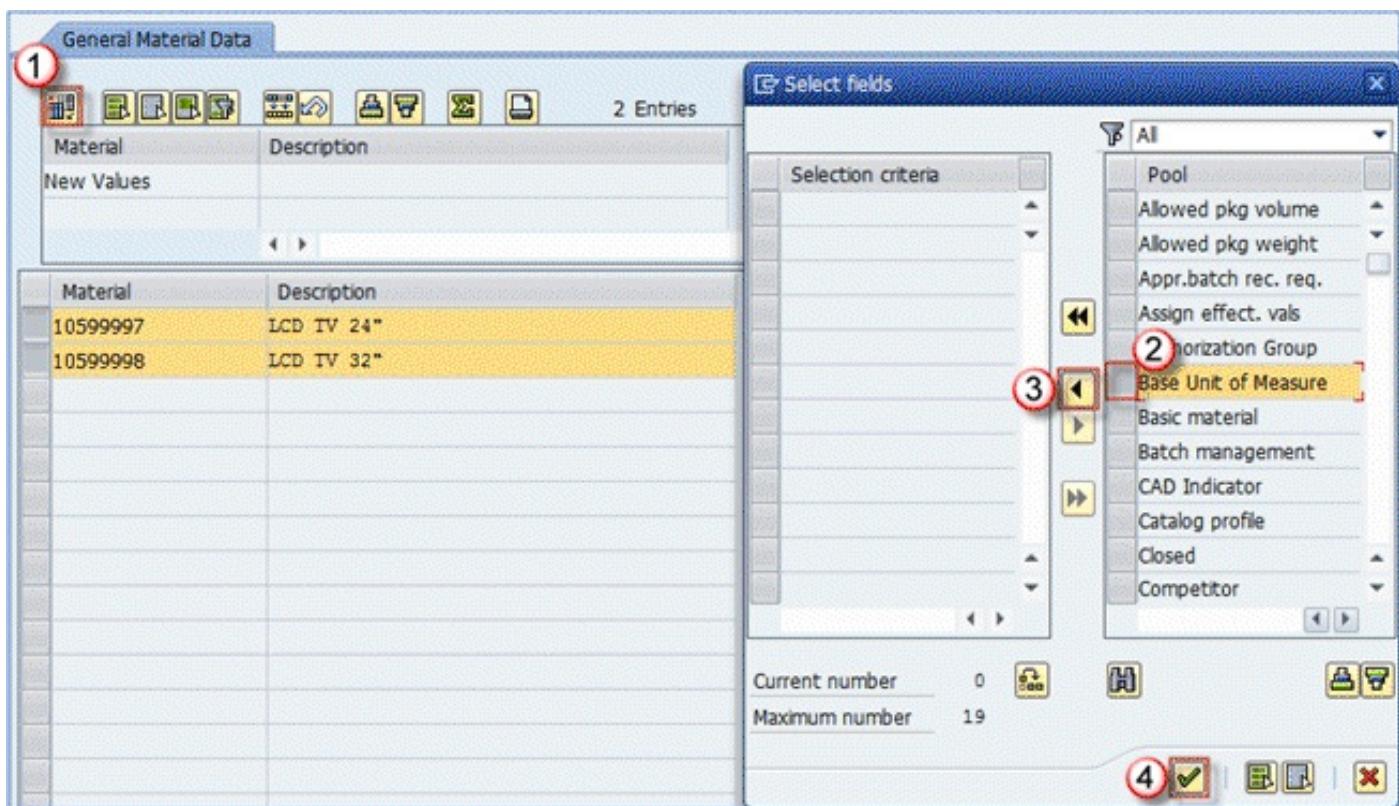
This screenshot shows the "Data Records to Be Changed" section of the Mass Maintenance dialog. It includes a "Get variant" button, a "Data Records to Be Changed" checkbox (circled with a red 2), a "Data Records to Be Created" checkbox, a "Do Not Change Existing Data" checkbox, and a "Restrict Data Records to Be Changed" section with a material range entry. The material range is set from 10599997 to 10599998.

Material	To
10599997	10599998

Step 3)

1. When clicking on the button shown below – you will get the **Select fields** screen.
2. Check the appropriate field (we are changing base unit of measure for our two materials).

3. Click the arrow pointing to the left to add the selected field to the list of fields to be changed.
4. Click the OK button.



Step 4) Now we are presented with the next screen where we can input our value to be transferred. Let's say we have maintained PAL – pallet as the base unit of measure for our TV sets of 24" and 32" and we need to change that to PCS – pieces.

1. Enter the value you want to copy in the box.
2. Click on the column heading.
3. Select the button, to overwrite the old values by “PCS”.
4. Execute.

The screenshot shows the SAP Material Master Data screen. At the top, there are tabs: 'Restrictions' (highlighted with a red circle and number 4), 'Old Values', and a blue circular icon. Below the tabs, the title 'General Material Data' is displayed with a checkmark icon and a red circle with number 2. A large green downward arrow is positioned to the right of the title. In the center, there is a toolbar with several icons, one of which is highlighted with a red circle and number 3. To the right of the toolbar, it says '2 Entries'. Below the toolbar is a table with two rows:

Material	Description	
New Values		1 → PCS

At the bottom of the table, there are navigation arrows. Below this table is another table showing material details:

Material	Description	
10599997	LCD TV 24"	PAL
10599998	LCD TV 32"	PAL

Now your settings are saved, and your material master data is changed.

Material Master Views – Ultimate Guide!

In this section, we will cover all the MM views with the implication on vital processes in standard SAP system. You will see how each of the views is created, its obligatory data, optional fields, and how its creation reflects the system. This tutorial is 7000 words+. For easy reference , we have created a clickable index below , which will take you to various sections of the tutorial

Basic Views

Basic views are views with general information about our material. Obligatory fields you need to insert in order to save changes are

1. **Material description:** LCD TV 40" – this can be maintained in various languages.
2. **Base unit of measure** (often referred to as **Base UOM**): PCS – this is the unit of measure in which material stock is managed. For a TV set, it's natural to be a piece. You can also use meter, kilogram, or any other unit you have defined and is suitable for material.
3. **Division:** 10 – Division for the material, you could create divisions 10, 20, 30, 40 for finished goods, trading goods, services, and other materials, so you can categorize them in this way. We have selected division 10 for our material since it is finished goods.
4. **General Item category group:** NORM – Standard item. Used throughout the system, this indicator has an effect on sales and stock transfer processing as it is used in item category determination.
5. **Weight unit:** Kg – unit in which product weight is entered.
6. **Gross weight:** 26,988 – gross weight of 1 unit of product in weight unit. **Net weight:** 24,651 – net weight of 1 unit of product in weight unit

Create Material 10599999 (Finished Product)

The screenshot shows the SAP Material Master Data entry screen for material number 10599999. The material description is LCD TV 40". The top navigation bar includes tabs for Additional Data, Org. Levels, Check Screen Data, Basic data 1, Basic data 2, Classification, and Sales: sales org. 1. The 'Basic data 1' tab is highlighted with a green oval.

General data

- Base Unit of Measure: pc (circled with red circle 2)
- Old material number: (empty)
- Division: 10 (circled with red circle 3)
- Product allocation: (empty)
- X-plant matl status: (empty)
- Assign effect. vals: (checkbox)
- Material Group: (empty)
- Ext. Matl Group: (empty)
- Lab/Office: (empty)
- Prod.hierarchy: (empty)
- Valid from: (empty)
- GenItemCatGroup: NORM (circled with red circle 4)
- Standard item: (checkbox)

Material authorization group

- Authorization Group: (empty)

Dimensions/EANs

- Gross Weight: 26,988 (circled with red circle 5)
- Net Weight: 24,651 (circled with red circle 6)
- Weight unit: KG
- Volume: (empty)
- Volume unit: (empty)
- Size/dimensions: (empty)
- EAN/UPC: (empty)
- EAN Category: (empty)

Packaging material data

- Matl Grp Pack.Matls: (empty)

Basic data - optional fields

Material group – you can enter material group here **Product hierarchy** – this field is used in sales and distribution and is maintained in Sales organization 1 view. **EAN/UPC** – Material EAN code, besides usage in bar coding, it is particularly utilized in Warehouse management as a unique identifier for material and package combination. One material can have several bar codes. One for the base unit of measure. Every alternative unit of measure can also have its EAN, but it's not a requirement, it's an option. Other fields are optional. **NOTE:** In the upper part, (marked in green) you can see views that are possible to maintain for current material. You can navigate by clicking on the appropriate view name.

Classification View

Materials can be classified in order to be found later by their class, batch

characteristics etc. Let's say we have a lot of TV sets with different dimensions colors etc. You can create two classes: dimension and color. Later you can use it to find all the black TV sets, or TV sets of a certain dimension.

Class type description	Ty.
Material Class	001
Batch	023
Material (Configurable Objects)	200
Variants	300

Class types available in standard SAP

By choosing Material Class – 001 you are extending material for this class type. Now we have to add a class we want to use for our material. A class called **General** could consist of two **characteristics**: *Color* and *Dimension*, or anything that you might need while categorizing materials or searching them in MM module, or other modules. After class assignment to the material, you can maintain characteristics that this class contains. In our case, we have a class named **General** that contains characteristics **Color** and **Dimension**. We can populate the appropriate fields.

The screenshot shows the SAP Classification dialog. At the top, there are two tabs: 'Classification' (selected) and 'Assignment'. Below the tabs, there's a toolbar with icons for search, refresh, and other functions.

Object

Material	10599999	LCD TV 40"
Class Type	001	Material Class

Assignments

Class	Description	S...	S	I..	Itm
GENERAL	General material details	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	10

Below the table are several icons for navigation and editing. To the right, there's a status bar showing 'Entry 1 / 1'.

Values for Class GENERAL - Object 10599999

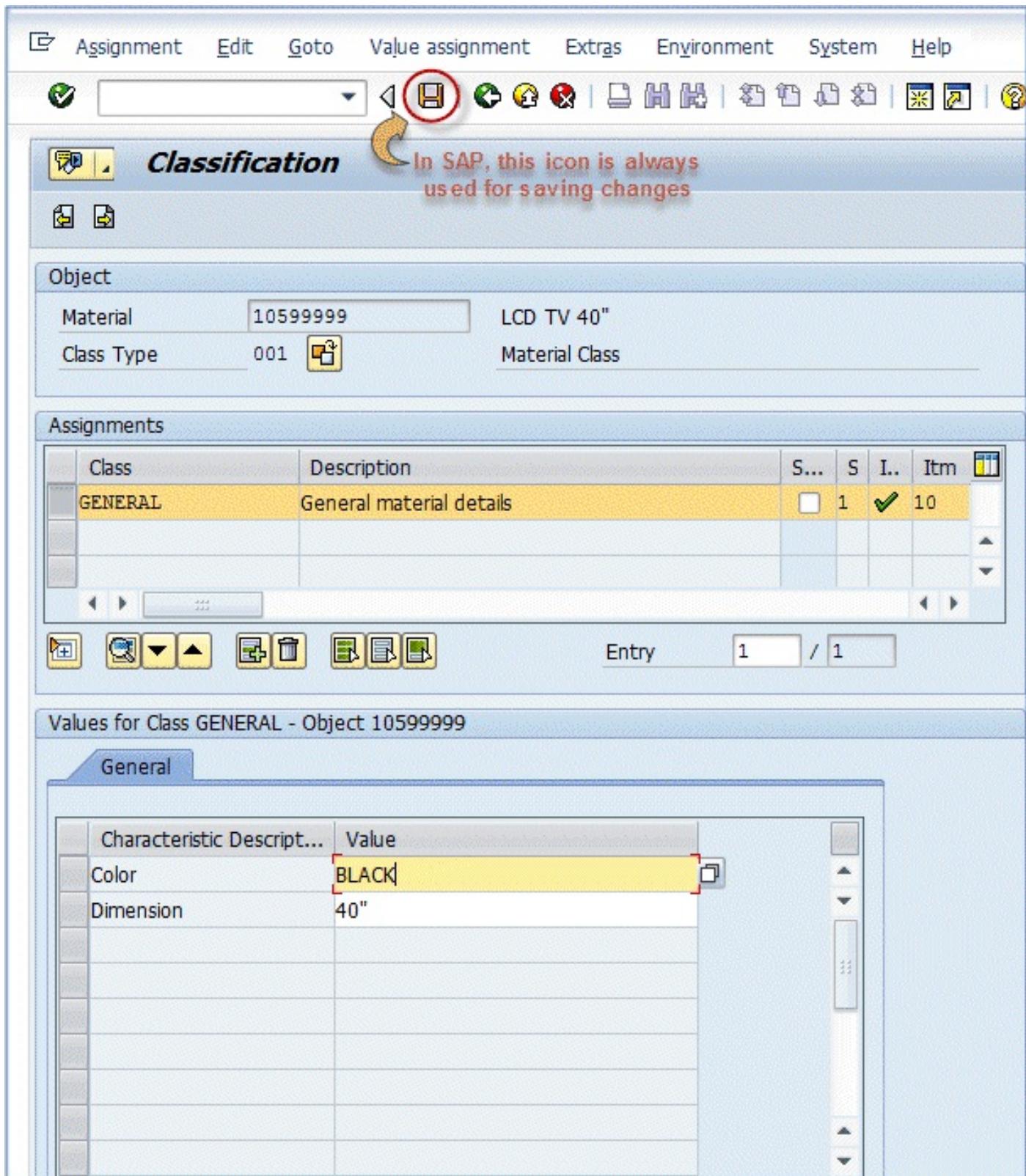
General

Characteristic Descript...	Value
Color	BLACK
Dimension	40"

A red circle with the number '2' and the text 'Assign values to characteristics' points to the 'Dimension' row.

Assigning a class and maintaining values for characteristics

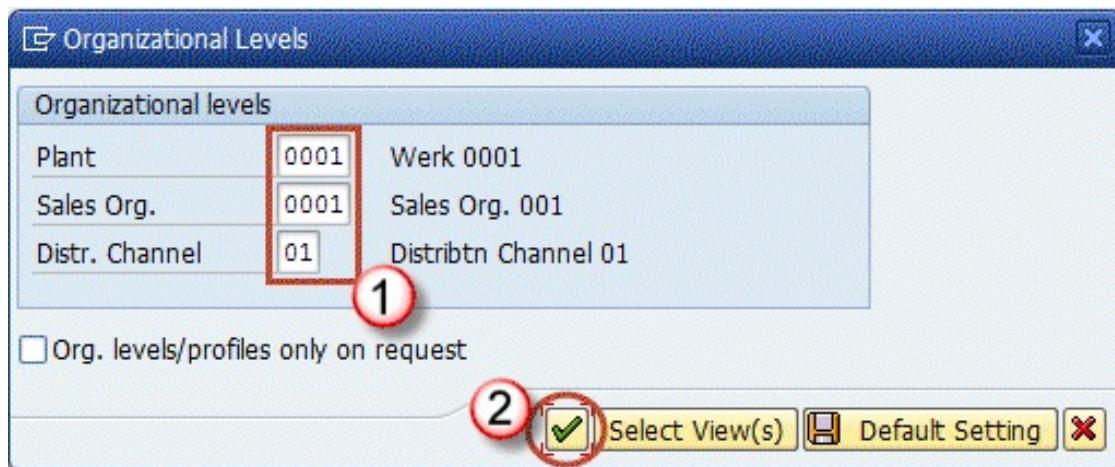
It is a good practice to include the color of your product in material description as well; it is extremely useful to other users. For example while creating sales orders in SD, for picking and putaway processes in warehouse management, purchasing department, production planning etc. You can now save your changes.



Saving Classification view

Sales Organization Data 1

When you choose this view, a screen with organizational levels will appear. Here, you can choose for which Plant, Sales organization and Distribution channel you want to extend your material.



After confirming Organizational Levels, you are presented a screen which contains the data regarding sales activities. The only mandatory field is the delivery unit. Others are optional, but they might be needed in order to use some advanced features. For example, if you want to use dynamic rounding profile (must be customized by SD consultant), you have to maintain field *Rounding profile*. Let's find out what are the most important fields in sales views. The most crucial thing about sales views is that they are open. When we do that people from SD module can sell our material through that Sales Organization / Channel. So essentially you would only have to populate the Delivery unit field and save the data, and immediately material becomes available to be used. To get a better understanding of Sales organization, think of it as an office that sells your products. In this office, you have people that sell products in your home country – they are using distribution channel 01, and you can have people selling abroad, export department that would be channel 02. On the screen below, you can see all of the fields from Sales organization 1 View.

Sales: sales org. 1

Classification Sales: sales org. 1 Sales: sales org. 2 Sales: General/Plant

General data																	
Base Unit of Measure	PCS	Piece	Division	10	Product Div...												
Sales unit			<input type="checkbox"/> Sales unit not var.														
Unit of Measure Grp																	
X-distr.chain status			Valid from														
DChain-spec. status			Valid from														
Delivering Plant																	
Material Group																	
<input checked="" type="checkbox"/> Cash discount		Conditions															
Tax data		<table border="1"> <thead> <tr> <th>C.</th> <th>Country</th> <th>T...</th> <th>Tax category</th> <th>Tax classification</th> <th></th> </tr> </thead> <tbody> <tr> <td>DE</td> <td>Germany</td> <td>MWST</td> <td>Output Tax</td> <td>1 Full tax</td> <td></td> </tr> </tbody> </table>				C.	Country	T...	Tax category	Tax classification		DE	Germany	MWST	Output Tax	1 Full tax	
C.	Country	T...	Tax category	Tax classification													
DE	Germany	MWST	Output Tax	1 Full tax													
Quantity stipulations		<table border="1"> <tr> <td>Min.order qty</td> <td>PCS</td> <td>Min. delay qty</td> <td>PCS</td> </tr> <tr> <td></td> <td></td> <td>Delivery unit</td> <td>2 1 PAL</td> </tr> <tr> <td>Rndng Profile</td> <td></td> <td></td> <td></td> </tr> </table>				Min.order qty	PCS	Min. delay qty	PCS			Delivery unit	2 1 PAL	Rndng Profile			
Min.order qty	PCS	Min. delay qty	PCS														
		Delivery unit	2 1 PAL														
Rndng Profile																	

Tax category/indicator: For internal sales, we will have to define a full tax indicator since the tax is applied for sales inside the country. For export, (using division 02 for example) we would set this to 0 – No Tax. It actually depends on the tax policy of your country, but most of the countries have this practice I mentioned. **Delivery unit:** in most cases it's first alternative unit of measure (box, pallet, something else). You can see that here we will define 1 PAL – pallet as a delivery unit, but that doesn't mean that we can sell only entire pallet. We will also be able to sell a single piece of this material, and the system will indicate to sales person that this material is meant to be delivered as 12 pieces on a pallet. **Base unit of measure:** this is grayed out field as it is already defined in Basic Data view 1 and cannot be changed afterwards. **Division:** this is the division we have just selected in our organizational levels screen before current screen. **Sales unit:** If the field does not contain an entry, the system will assume that the unit of measure is the base unit of measure. If you don't want to use pieces as a default sales unit of measure, you can enter the appropriate unit of measure in this field. It will reflect sales documents in this way: - Sales unit is not defined. Sales person enters quantity of 4 without specifying unit of measure. System will assume that

the required quantity is 4 pieces - Sales unit is defined as pallet. System will assume that the required quantity is 4 pallets **Sales unit not variable**: this check box is used in cases when we require the material to be sold **only** in sales unit. If you set the sales unit to PAL, and check this box, sales person will only be able to sell this material using the PAL alternative unit of measure. This is being used rarely. **Unit of measure group**: Used mainly in conjunction with dynamic rounding profile, this is an indicator which represents a group of units of measure that can be used for this material. **Material group**: material group we discussed during the Basic Data view. **Min.order qty**: This is a minimal order quantity accepted for this material. **Min.dely. Qty**: This is a minimal delivery quantity accepted for this material. **Rounding profile**: Here you can choose a specific rounding profile for material. SD consultant has to create the profiles to be shown as possible entries in this field.

Sales Organization Data 2

With same Organizational Levels, we can create the sales organization data 2 View and maintain its data. Mostly statistical and grouping data are subject of this view.

The screenshot shows the SAP Sales Organization Data 2 View interface. At the top, there are tabs for Sales: sales org. 1, Sales: sales org. 2, Sales: General/Plant, and Foreign tra... The main area is divided into two sections: Grouping terms and Product attributes.

Grouping terms:

- Material: 10599999 (highlighted with red circle 1)
- Sales Org.: 0001 (highlighted with red circle 2)
- Distr. Chl: 01 (highlighted with red circle 3)
- LCD TV 40" (highlighted with red circle 4)
- Sales Org. 001 (highlighted with red circle 5)
- Distribn Channel 01
- 'A' Material
- Material pricing grp
- Maximum Reb...
- Acct assignment grp
- Standard item
- Item category group
- NORM
- Standard item
- Pricing Ref. Matl
- Product hierarchy: 0010000001 (highlighted with red circle 3)
- Commission group: 01 Commission Group 1

Product attributes:

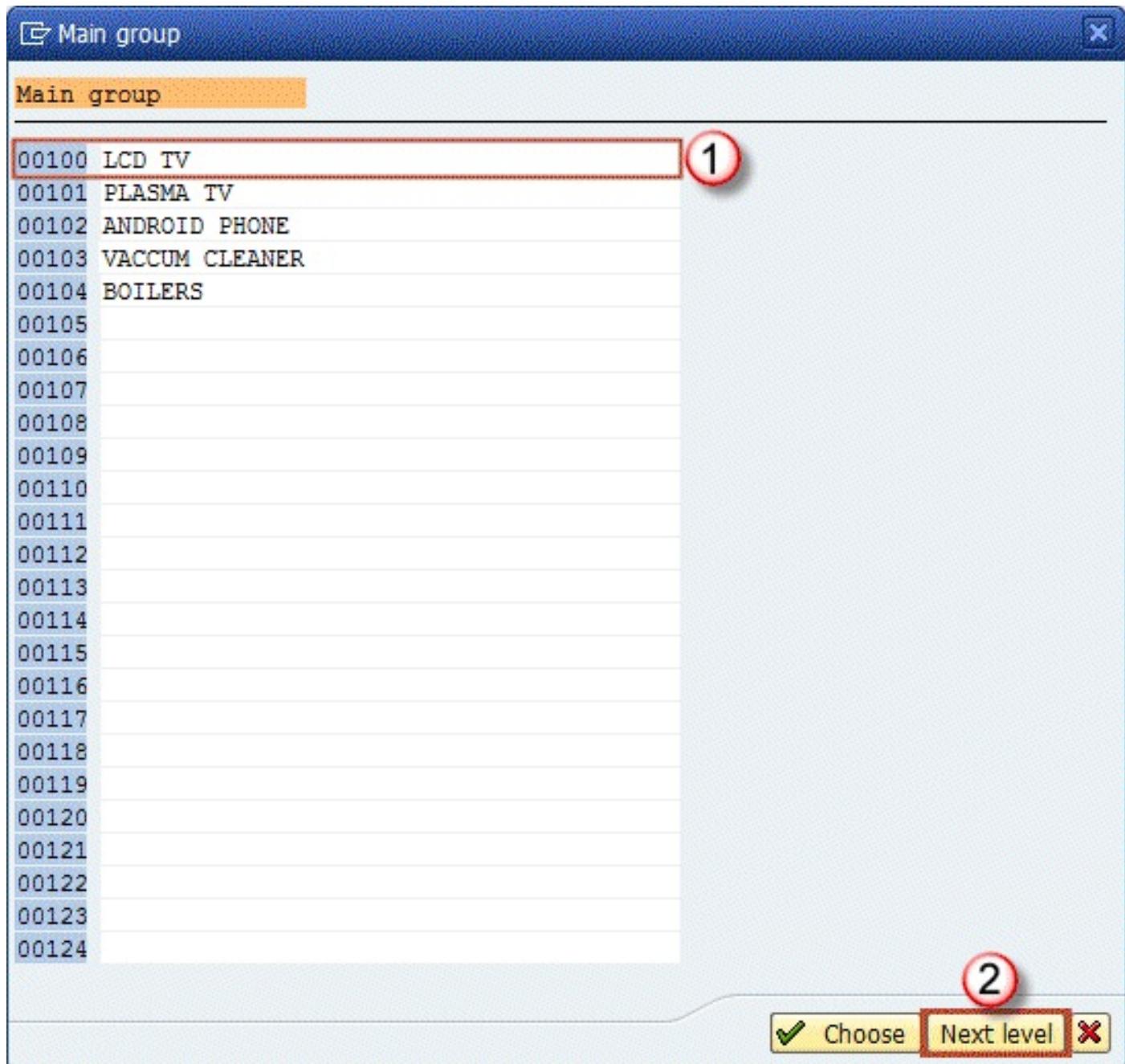
- Product attribute 1
- Product attribute 4
- Product attribute 7
- Product attribute 10
- Product attribute 2
- Product attribute 5
- Product attribute 8
- Product attribute 3
- Product attribute 6
- Product attribute 9

Important Sales Organization Data 2 View fields

- **Material statistics group**: This is an indicator used to specify if this material

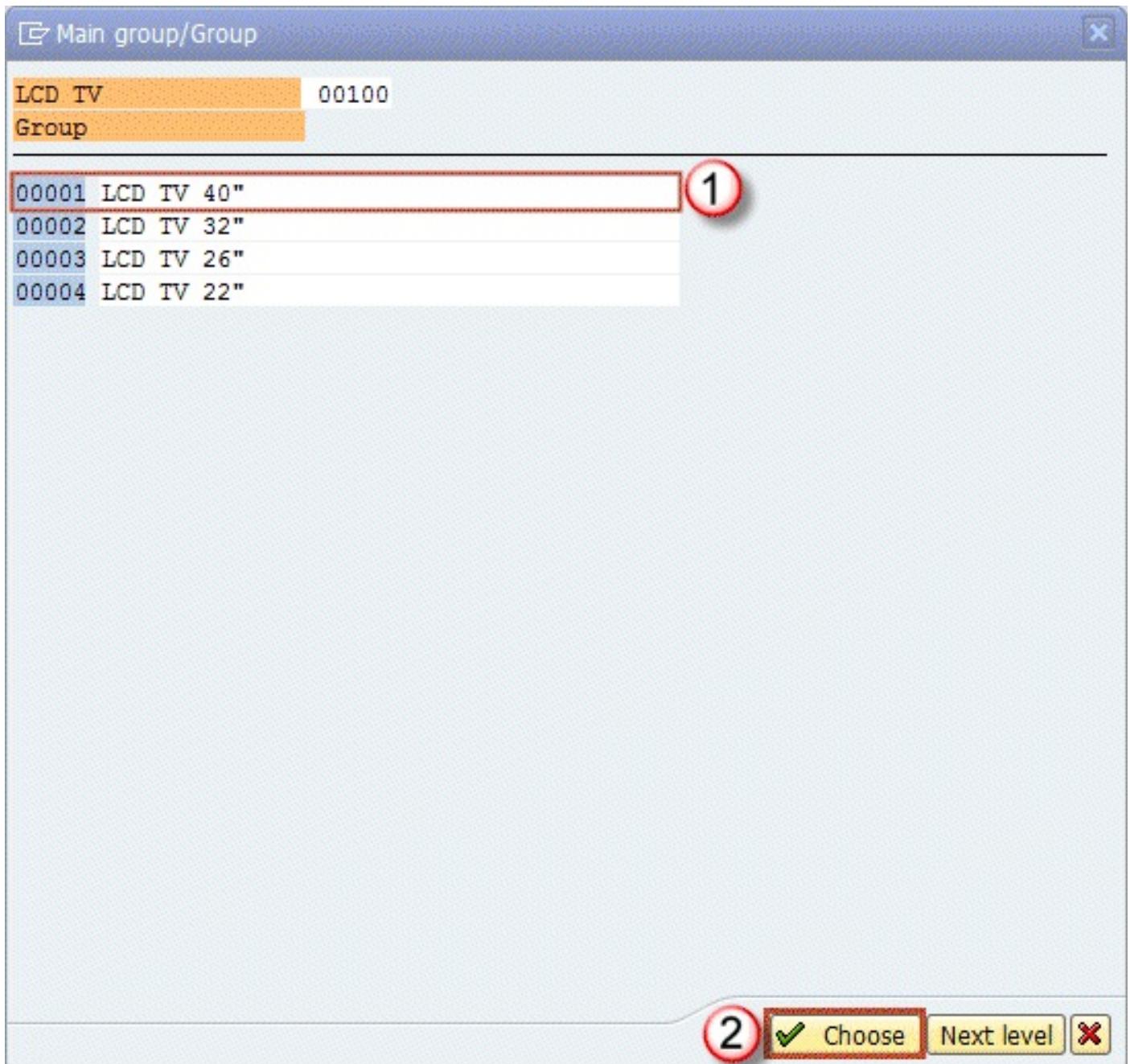
is to be included in statistical transaction in SD module **MCSI**. It is most used to set this indicator to 1 in most systems.

- **General item category group:** default item category group for this material based on material type settings. You cannot change it.
- **Product hierarchy:** This hierarchy is used for reporting purposes so that sales management can analyze sales data based on this hierarchy. It consists of two levels. For example, first level of hierarchy could be LCD TVs. Inside the first hierarchy level, we can find more than one second level, and in our case, we can have LCD TV 40", LCD TV 32", LCD TV 26" inside our first level which is LCD TV. Another level would be Plasma TV. In this first level, we can maintain Plasma TV 22", Plasma TC 32", Plasma TV 40". Every first level of hierarchy contains unique second level hierarchies.
- **Account assignment group:** this field represents the accounting requirements for the material. Often different types of materials require different accounting requirements (finished goods, trading goods, services aren't accounted in the same way). This is a point of integration with FI/CO modules.
- **Item category group:** it's copied from 2- General item cat.grp field, but this is the category group that is assigned to specific distribution channel. It can be changed as opposed to the field no.2, and with this field you can manage how will the same material will be used in sales in different channels. For example, you might want a material to have different item category in foreign sales activities than the default. It is changed mainly under directives from SD team. **Product hierarchy – choosing the appropriate hierarchy from a predefined list:** You have probably already thought how product hierarchy is hard to maintain. You only see a bunch of numbers. It's hard to know which numbers are appropriate for particular material. Besides the fact that this is the information that sales & distribution team should supply to you, there is an easy way of browsing through all of the hierarchies. When you push the button that shows you possible entries for a field you get to this screen:



First level of hierarchy

After selecting the appropriate first level, you should click on Next level button just as on the above screen. You will be taken to the screen with possible entries for second level of hierarchy. As you can see in the header of this screen, there is an indication that this second level of hierarchy is for a first level 00100 – LCD TV:



Second level of hierarchy

Final result is as on the screen below:

Product hierarchy	0010000001	LCD TV 40"
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Product hierarchy on Sales Organization Data 2 View

Other fields in Sales organization Data 2 View **Volume rebate group:** group used for rebate settlement, can be set to maximum rebate, low rebate, depends on settings in SD module, this information is supposed to be provided by SD team. **Pricing Reference Material:** material master record that should be used as a reference for pricing purposes. **Commission group:** you can assign the same commission group to more material as long as the commission is the same for both (for example 5%). **Material pricing group:** used to group the material with the same pricing procedures. Later in SD condition record can be created based on this field, apart from standard ones (product hierarchy). You can combine

material pricing group with the customer number to create a condition. **Product attributes**: you can assign various product attributes to a material and check if the customer accepts this product attribute.

Sales General / Plant View

This view contains information about general sales characteristics of material. It is maintained on Plant level.

The screenshot shows the SAP Sales General/Plant View interface. At the top, there are tabs: 'Sales: sales org. 2' (highlighted), 'Sales: General/Plant' (disabled), and 'Foreign trade export'. Below the tabs, the material number '10599999' is displayed next to the description 'LCD TV 40"'. The plant number '0001' is shown next to 'Werk 0001'. A blue 'Help' button is visible.

General data

Base Unit of Measure	PCS	Piece	Replacement part
Gross Weight	26,988	KG	Qual.f.FreeGoodsDis.
Net Weight	24,651		Material freight grp
Availability check	02	Individ.requirements	<input type="checkbox"/> Appr.batch rec. req.
<input type="checkbox"/> Batch management	1		

Shipping data (times in days)

Trans. Grp		LoadingGrp	0001	Crane	
Setup time		Proc. time		Base qty	PCS

Packaging material data

Matl Grp Pack.Matls	
---------------------	--

General plant parameters

<input type="checkbox"/> Neg.stocks	Profit Center		SerialNoProfile		DistProf	
			SerializLevel			

Ext. customer repl. parameters

Mandatory fields

- **Availability check**: very essential attribute, used to define the stock availability check method. These methods are defined by customizing team, and can include stock on storage locations, can be also set up to include quantities on process and production orders, planned orders, quantities in the transfer towards the plant from which sales is being processed, etc.
- **Loading group**: extremely significant field as it is used in shipping point

determination. **Optional fields in Sales - General / Plant**

View Replacement part: defines if this material is a replacement part or not.

Material freight group: used for grouping materials in order to be classified according to freight code and class. **Batch management:** Indicates if material is managed in batches or not.

Approved batch record required: determines if batch approval must be submitted before the batch can be transferred from restricted to unrestricted stock.

Transportation group: a way of grouping materials with same transportation needs. It is used in SD module for route scheduling in sales orders and deliveries. Example: when you have materials that require to be transported carefully as they are fragile, and others are not.

Setup time, Process time, Base quantity: these three fields are used to calculate time consumed for shipping the material, the first is time in which you will set up devices for shipping, second is processing time per base quantity (third).

Material Group - Packaging Materials: this field is used for grouping the materials with similar packaging materials requirements.

Negative stocks: If you check this box you will allow negative stocks for this material in this plant. This requires also a setting by your MM consultant on storage location level (in customizing). **Profit center:** assign an adequate profit center for the material for controlling module purposes. This means that profit made from this material will be assigned to the profit center set in this field. For example if this is a finished product that makes a profit by sales you might want to choose a profit center for sales revenues. It also depends on management decision. Management might prefer to use some other key for profit center accounting.

Serial number profile and **Serialization level:** these control serialization of product (if you have it active), a profile used for the serial number, and serialization level that could be by material number etc. **Distribution profile:** signals where the incoming (procured) merchandise will be distributed in our plant.

Foreign Trade / Export View

This view contains information about freight, foreign trade, exporting of materials.

Sales: General/Plant Foreign trade export Sales text Plant stock

Material 10599999 LCD TV 40"

Plant 0001 Werk 0001

Foreign trade data

Comm./imp. code no.	1 85411000	Diodes, other than photodiodes and	Un <input type="checkbox"/>
Export/import group	2 0001	G0001	
CAS number (pharm.)			
PRODCOM no.			
Control code			

Origin / EU market organization / preferences

Country of origin	3 DE	Region of origin	<input type="checkbox"/>
CAP product list no.			
CAP prod. group			
Preference status	Not maintained	Customs tariff prefs	
Vendor decl. status	Not maintained		

Legal control

Exemption Certificate	<input type="checkbox"/>	Exemption cert. no.	<input type="checkbox"/>
Iss.date of ex.cert.			
<input type="checkbox"/> Military goods	Legal control		

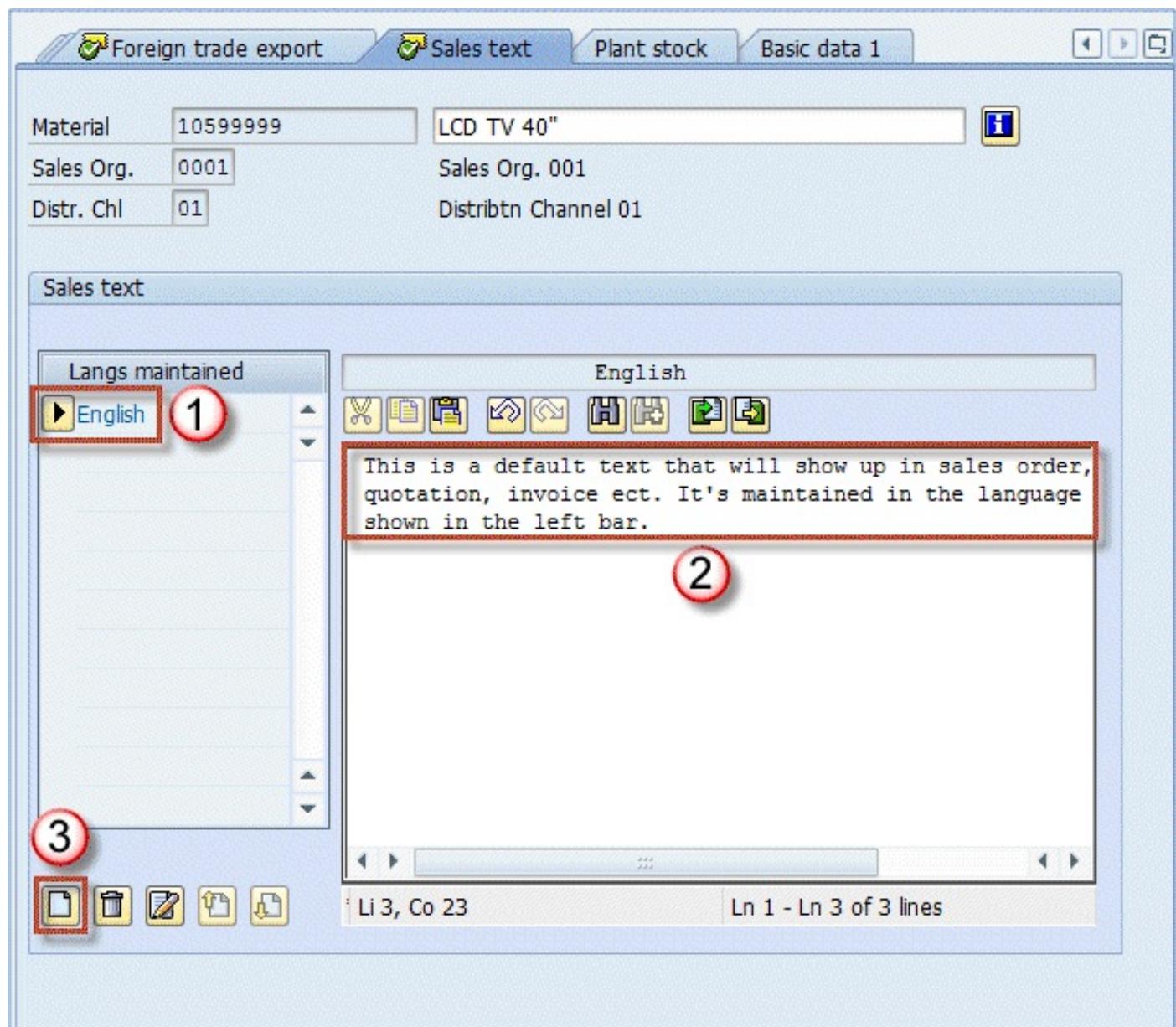
Mandatory fields in this view are:

1. **Commodity Code/Import Code Number for Foreign Trade:** This field contains either a commodity code or a tariff number. It is a unique standardised coding value for a certain type of goods.
2. **Export import group:** system can use export/import groups to propose an export procedure for export/import processes in SAP.
3. **Country of origin:** it represents the country where this material has been produced. If it's finished goods produced in-house you will enter your country code here (in our example it is DE - Germany). **Other fields** All the characteristics for sales views are supposed to be provided by the sales department (sales, freight), the role of a material master specialist/user is only to maintain them accurately. Some other information you can be given by your sales department to maintain in material master: **CAS number:** this field is only used for pharmaceutical products. **PRODCOM no.** – used only in EU countries for statistical purposes in production. **Control code:** Consumption tax control code in foreign trade. **Region of origin:** Besides

country you can define a region in the country (for ex. Bavaria, Hessen etc.) **CAP product list no.** – this is the number of the material in the EU market products group list – if applicable. **CAP product group**: indicates a product group from CAP product list. **Exemption certificate**: indicating if the material has been issued a certificate that states that this material doesn't need a license for export. **Exemption cert. Number**: Number of the exemption certificate. **Issuing date of exempt.cert.** – Issuing date for an exemption certificate. **Military goods**: a check box indicating if the material is mainly used in military purposes.

Sales Text View

You can define a sales item text for this material for various languages to be used in the sales documents. This could be some general explanation about the material, or explanation maintained on distribution channel level. If you maintain this text it will show up on the item level in all sales documents, and also in the printing version of sales documents.



MRP View 1

MRP views are maintained mostly for production purposes. This information is supplied by the appropriate MRP controller or someone else from production planning team. The only mandatory field in MRP 1 View is Planning type. We will cover the most important fields used in a productive environment in more detail.

The screenshot shows the SAP MRP View 1 interface. At the top, there are tabs: Sales text, MRP 1 (selected), MRP 2, MRP 3, MRP 4, and Forecasting. Below the tabs, there are two rows of input fields:

Material	10599999	LCD TV 40"	<input type="button" value="I"/>
Plant	0001	Werk 0001	

Below these are three main sections:

- General Data:** Contains fields for Base Unit of Measure (PCS), Purchasing Group, Plant-sp.matl status, Piece, MRP group, ABC Indicator (with values 1 and A highlighted in red circles), and Valid from.
- MRP procedure:** Contains fields for MRP Type (PD), Reorder Point, Planning cycle, Planning time fence, and MRP Controller (with value 001 highlighted in a red circle).
- Lot size data:** Contains fields for Lot size (TB), Daily lot size, Minimum Lot Size, Fixed lot size, Ordering costs, Assembly scrap (%), Rounding Profile, Unit of Measure Grp, Maximum Lot Size, Maximum stock level, Storage costs ind., Takt time, and Rounding value.

Purchasing group: this field is used to indicate which purchasing group is the default for purchasing this material. We haven't maintained it yet as this is a finished product of our company, we don't need it to be purchased at any time. We will set up this field for another material that needs to be purchased.

- **ABC indicator:** This is an indicator showing the importance of the material in terms of stock availability. Most of the companies use several ABC values, but most common are: **A** – the most important materials, they need to be available for sales in every moment customer requests it, **B** – less important materials that are often supposed to be available but the lack of this material can happen and is allowed, **C** – Least important materials. There can also be

few more categories, **N** – new, material not yet tested on the market, so we don't actually know if it's going to be A, B or C yet. **S** – material that is produced only on customer request, and **D** – same as S with the difference that it has a certain quantity on stock just in case someone needs it ASAP, in production planning it is called a material safety stock.

- **MRP type:** there are various types of MRP that can be utilized. In this case, our MRP controller signalled that it should be PD – default MRP for most of the SAP installations.
- **MRP controller:** MRP controller responsible for production of this material, he manages all the data in these MRP views, along with the MRP results itself, production planning for this material etc. It is usual that the MRP controller provides the data for MRP views, or even in some organizational structures MRP controllers are maintaining these views on their own.
- **Lot size:** defines the procedure used by the system in order to calculate the procurement or production quantity of the material. **Other fields in this view** MRP group: this setting is used to group materials with same MRP control parameters which are, for example, the strategy group, the consumption mode, etc. If this field is not maintained, the system will use material group from Basic Data 1 when performing the MRP. **Plant-Specific Material Status:** If set, this indicates the usability of material in special functions, for example, material can be used for testing or is going to be discontinued, so the MRP doesn't take it into account when it runs. This setting could restrict the use of material in a particular function. **Reorder Point:** indicates at which stock level MRP should create a new order (either procurement or production order). **Planning cycle:** cycle of planning, it is defined in customizing and assigned to a material, it can represent a day on which the planning is performed. **Minimum and Maximum lot size, Fixed lot size:** used to indicate the boundaries for lot size, or a fixed quantity to be used. **Ordering costs:** fixed cost per order in company code currency, used to calculate the optimal lot size. **Rounding Profile and Unit of Measure Group:** like the fields in sales views, these are the same fields you can populate with rounding type to purchasing or production (if applicable). **Rounding value:** it is used in procurement for rounding the procurement quantity to a value of multiple of the number entered here.

MRP View 2

MRP view 2 contains data about Procurement, Scheduling, and Net requirements calculation.

Procurement	
Procurement type	1 <input checked="" type="checkbox"/> E
Special procurement	<input type="checkbox"/>
Quota arr. usage	<input type="checkbox"/>
Backflush	<input type="checkbox"/>
JIT delivery sched.	<input type="checkbox"/>
<input type="checkbox"/> Co-product	
<input type="checkbox"/> Bulk Material	
Batch entry	<input type="checkbox"/>
Prod. stor. location	2 <input checked="" type="checkbox"/> 0001
Default supply area	<input type="checkbox"/>
Storage loc. for EP	<input type="checkbox"/>
Stock det. grp	<input type="checkbox"/>
Joint production	
Scheduling	
In-house production	<input type="checkbox"/> days
GR Processing Time	3 <input type="checkbox"/> 2 days
SchedMargin key	4 <input checked="" type="checkbox"/> 000
Planned Deliv. Time	<input type="checkbox"/> days
Planning calendar	<input type="checkbox"/>
Net requirements calculation	
Safety Stock	<input type="checkbox"/>
Min safety stock	<input type="checkbox"/>
Safety time ind.	<input type="checkbox"/>
STime period profile	<input type="checkbox"/>
Service level (%)	<input type="checkbox"/>
Coverage profile	<input type="checkbox"/>
Safety time/act.cov.	<input type="checkbox"/> days

- **Procurement type:** here you can choose if your material has internal production (our case), external procurement, or both types of procurements are possible. It also mightn't have procurement at all.
- **Production storage location:** here you will maintain the storage location that is copied throughout the production documents. If this is a production component this marks the location from which the goods issue is posted, or if it's produced material it annotates a location to which the material receipt is posted.
- **Goods Receipt Processing Time in Days:** you can set up this value that represents needed time in days for goods to be inspected and placed into appropriate storage location.
- **Schedule margin key:** this represents a key used for determination of the floats required for scheduling an order. It is defined in customizing and is supplied by your MRP controller or PP administrator.
- Other fields in this view**
 - Special procurement:** used to override the procurement type.
 - Batch entry:** indicates when the batch determination should be executed.
 - Default supply area:** if you define it this will be a proposed supply area for the material, it's mostly used for KANBAN type of

materials. **Backflush**: determines if backflush indicator is to be set in the production order. **Storage location for external procurement**: storage location to be proposed in the purchase requisition. **Stock determination group**: this indicator along with the stock determination rule create a key for the stock determination strategy. **Co-product**: if checked, indicates that this material can also be used as a co-product. **Bulk material**: this identifies a bill of materials item as a bulk material. This is important as requirements of bulk materials are not relevant for the MRP. **Safety stock**: quantity in base UOM to use as a safety stock. **Minimum safety stock**: Safety stock is never allowed to drop below this value.

MRP View 3

MRP view 3 contains several valuable fields mostly used by planning functions.

The screenshot shows the SAP MRP View 3 interface with the following details:

- Header:** MRP 2, MRP 3 (selected), MRP 4, Forecasting, Work scheduling.
- Material and Plant:** Material 10599999, LCD TV 40", Plant 0001, Werk 0001.
- Forecast Requirements:**
 - Period Indicator: 1 M (highlighted with red circle 1).
 - Fiscal Year Variant:
 - Splitting indicator:
- Planning:**
 - Strategy group: 2 11 (highlighted with red circle 2).
 - Consumption mode: 3 1 (highlighted with red circle 3).
 - Fwd consumption per.: 4 0 (highlighted with red circle 4).
 - Bwd consumption per.: 30 5 (highlighted with red circle 5).
 - Mixed MRP: 2 6 (highlighted with red circle 6).
 - Planning material:
 - Planning plant:
 - Planning matl BUnit:
 - Planning conv. factor:
- Availability check:**
 - Availability check: 02 (highlighted with red circle 7).
 - Cross-project:
 - Tot. repl. lead time: days
- Plant-specific configuration:**
 - ConfigurableMaterial:
 - Variant
 - Planning variant
 - Buttons: Configure variant, Configure planning variant (highlighted with yellow background).

- **Period indicator:** indicates if material is to be planned/forecast monthly, weekly, yearly, daily etc. This is in most cases set to monthly.

- **Strategy group:** used for grouping the planning strategies, for example, this can be set to Make to Order, Make to Stock etc. There are a number of options, and this must be defined by the production planning management. In most cases, material types and/or material ABC classification influences the decision which strategy group material should be assigned.
- **Consumption mode:** this controls how system will consume requirements. In backward mode sales, orders, dependent requirements or material reservations consume planned independent requirements that lie **before** the requirements date while in forward mode they consume planned independent requirements that lie **after** the requirements date.
- **Forward consumption period:** number of day used as a consumption threshold in forward consumption mode. Can be set from 1 to 999 days but usually not longer than several days. We are using 0 since we are utilizing backward consumption mode for this material.
- **Backward consumption period:** Same as previous except it is used for backward consumption mode.
- **Mixed MRP:** defines if material is available for subassembly planning and gross requirements planning.

Other fields in MRP 3 View Planning material: Only for use with planning strategy “planning with planning material”.

MRP 4 View

This is the only MRP view that is maintained on Plant / Storage location organizational level. It doesn't contain as much valuable fields as previous, but there are three handy indicators that can be used to optimize processes in some modules.

The screenshot shows the SAP MRP configuration interface with several tabs at the top: MRP 3, MRP 4, Forecasting, Work scheduling, Plant data / stor. 1. The main area contains the following sections:

- BOM explosion/dependent requirements**: Includes fields for Selection method (radio button 1), Component scrap (%), Requirements group, Version Indicator, ProdVersions, and MRP dep.requirements.
- Discontinued parts**: Includes fields for Discontin. ind. (radio button 2) and Follow-up matl.
- Repetitive manufacturing / assembly / deployment strategy**: Includes fields for Repetitive mfg, REM profile, Action control, Fair share rule, Push distribution, and Deployment horizon.
- Average plant stock**, **Material memo**, and **Material memo exists** buttons.
- Storage location MRP** section:
 - SLoc MRP indicator** (radio button 3): Options include 0 (empty), 1 (Storage location stock excluded from MRP), and 2 (Storage location stock included in MRP).
 - Spec.proc.type: SLoc**
 - Replenishment qty**

- **Selection method**: if you are using BOMs (Bill Of Materials) for your production, you could govern with the selection of alternative BOMs with this field. You can set selection type by order quantity, production version, explosion date.
- **Discontinued indicator**: you can select the indicator for discontinued part as per requirements.
- **SLoc MRP indicator**: this is the most powerful indicator on this view. It tells us if our storage location (that we used in organizational levels screen – in this example 0001 – Lager 0001) is relevant for MRP. That is highly significant as it can reflect not only MRP but also ATP (available to promise) quantities. For example, if we use the default value (empty field), it means that our storage location is taken into account in our MRP runs. It is also taken into account in ATP so sales department can see the stock on this location available for sales activities. On the other hand, if you choose indicator 1 – Storage location stock excluded from MRP, this stock will not be taken into account for the MRP run, as well as it won't be available to promise (ATP) to the customer, so it couldn't be sold. If you choose indicator 2 -

Manage storage location separately, it means that you want to manage this locations stock separately from plant stock (useful in some rare cases). The most obvious example for usage of this function is rejects storage location. When our LCD TV 40" comes out of the production line it can be fully functional, or it might have a flaw. If it is ready for sales we will transfer it to our 0001 location and sales department will see that quantity available to be sold. Let's say we produced 3000 TV sets. Out of that quantity there is 10 TV sets with some problems and our quality control department chooses that those cannot be sold, so these are sent to our location 0003 for rejects. In MRP 4 view, we have to maintain the indicator 1 for our rejects location 0003 as we don't want sales department to see the stock as available. We only want the other 2900 pieces available that are on the 0001 location, for which we maintain empty field for this indicator (include in MRP/ATP).

Work Scheduling View

This view is used by the production to control the scheduling of production and process orders. A production schedule determines how capacity requirements are calculated for all the materials during a scheduling run. Here, you can also activate batch management if material is to be handled in batches (certain quantities of material with slightly different characteristics). Batch management can be activated in several other views.

The screenshot shows the SAP Work scheduling interface with the following details:

- General Data:**
 - Base Unit of Measure: PCS
 - Piece: PI01 (highlighted with a red circle)
 - Unit of issue: P-S matl status (Valid from: 0001)
 - Prod.stor.loc.: 0001
 - Mat. Grouping: Overall profile
 - Critical Part:
 - Batch rec. req.:
 - Version Indicator:
 - Batch entry:
 - ProdVersions:
 - BatchManagement:
- Tolerance data:**
 - Underdely tol.: 5 percent
 - Overdely tol.: 3 percent
 - Unlimited:
- In-house production time in days:**
 - Lot size dependent:
 - Setup time: 1
 - Processing time: 1
 - Interoperation:
 - Lot size independent: InhseProdTime:
 - Base quantity: 48

- **Production schedule profile:** define how the process will flow in PP or PP-PI, some additional controls about automatic goods receipt etc. Customized by your PP consultant.
- **Underdelivery tolerance:** define allowed percentage of quantity to be underdelivered.
- **Overdelivery tolerance:** allowed percentage for quantity exceeding for production or process order. For overdelivering, you can check the unlimited box – in that case we are allowing unlimited over delivery.
- **Setup time:** time needed to setup and teardown work center resources (lot size independent).
- **Processing time:** processing time for the base quantity.
- **Base quantity:** used for processing and inhouse production time. In our case, processing time is the time needed to process 48 pieces of our material.

Plant data – Storage 1 View

Warehouse administration team should supply the data for maintenance of this view. These are mostly storage data valid on the plant level. Let's go through all

the essential fields for this view.

The screenshot shows the SAP Work scheduling interface for Plant data / stor. 1. At the top, there are tabs for Work scheduling, Plant data / stor. 1 (selected), Plant data / stor. 2, and Warehouse Mg... . Below the tabs, the Material is listed as 10599999 with the description LCD TV 40". The Plant is 0001 with the description Werk 0001. A help icon is also present.

General data

Base Unit of Measure	PCS	Piece	Unit of issue	1
Temp. conditions	2		Storage conditions	3
Container reqmts	4		Haz. material number	
CC phys. inv. ind.		<input type="checkbox"/> CC fixed	Number of GR slips	
Label type		Lab.form	<input type="checkbox"/> Appr.batch rec. req.	
<input type="checkbox"/> Batch management				

Shelf life data

Max. storage period	5	Time unit	
Min. Rem. Shelf Life	6	Total shelf life	
Period Ind. for SLED	7 D	Rounding rule SLED	
Storage percentage			

- **Unit of issue:** this is the unit in which material is issued from any storage location within the plant (except for the warehouse managed locations which have a setting that overrides this field value).
- **Temperature conditions:** temperature (and atmospheric) conditions in which the material must be stored.
- **Storage conditions:** storage conditions required by material.
- **Container requirements:** type, and conditions in the container in which the material is shipped.
- **Max.storage period:** maximum period of time for which a material can be stored.
- **Minimum remaining shelf life:** minimum remaining time for the material to be allowed to be stored (in case the remaining time is shorter than minimum – system will deny goods receipt).
- **Period indicator for SLED:** used as a unit of time for Minimum remaining shell life. If this field contains D, than minimum remaining shelf life is maintained in days. Indicator M is for months etc.

Plant data – Storage 2 View

These fields are repeating from Basic view 1 (Weight/Volume section), and Sales – General (General Plant parameters section), we had described them when we

covered those views.

The screenshot shows the SAP Warehouse Management 1 View interface. At the top, there are three tabs: 'Plant data / stor. 1' (highlighted), 'Plant data / stor. 2', and 'Warehouse Mgmt 1'. Below the tabs, material details are displayed: Material '10599999' (LCD TV 40"), Plant '0001' (Werk 0001), and Stor. Loc. '0001' (Lager 0001). A help icon (blue 'i') is also present. The interface is divided into sections:

- Weight/volume Available on Basic Data 1 View**: Contains fields for Gross Weight (26,988), Net Weight (24,651), Volume, and Size/dimensions, along with weight and volume unit selection boxes.
- General plant parameters Available on Sales - General View**: Contains checkboxes for Neg. stocks in plant, Serial no. profile, Profit Center, and Log. handling group, Distr. profile, Stock determ. group selection boxes.

Warehouse Management 1 View

This view is maintainable on Plant / Warehouse number organizational level. Warehouse number is the top hierarchy level in warehouse management in SAP. You can see positions 1 & 2 in the picture below representing Plant and Warehouse Number for which we are extending the material. Information for maintaining this view should be supplied by warehouse management administration team.

The screenshot shows the SAP Material Master screen with the following details:

General data

- Material: 10599999 (LCD TV 40")
- Plant: 0001 (1)
- Whse No.: 001 (2)
- Base Unit of Measure: PCS
- WM unit: (3)
- Unit of issue: (4)
- Proposed UoM frm mat: (5)
- Picking storage type: (6)
- Batch management: (7)
- Haz. material number: (8)
- Gross Weight: 26,988 KG
- Volume: (9)
- Capacity usage: (/)
- Appr.batch rec. req.

Storage strategies

- Stock removal: (6)
- Storage Section Ind.: (8)
- Special movement: (7)
- 2-step picking: (9)
- Stock placement: (7)
- Bulk storage: (9)
- Message to IM
- Allow addn to stock

- **Plant:** organizational level
- **Warehouse number:** organizational level
- **WM unit:** unit that is used throughout the warehouse management. Every document in WM uses this unit of measure, no matter what is the original document UOM. For example, if you create delivery for 12 pieces of LCD TV 40" and we have defined in warehouse management view that WM unit is PAL, in transfer orders (WM document for stock management) 1 PAL will be shown instead of 12 PCS as the original document (delivery)item was created.
- **Unit of issue:** it is already covered in Plant Data – Storage 1 View.
- **Proposed UoM for material:** this indicator determines which unit of measure should be used in warehouse management in conjunction with WM unit. This indicator can be set to use Unit of Issue (defined here in material master), Order unit (unit in which the original document was created – sales order, delivery, reservation etc.), WM unit of measure, base unit of measure, and some additional conditional possibilities (for example, if no other unit is specified use base unit of measure).
- **Stock removal strategy:** to be used, a stock removal strategy suitable for this material has to be defined in customizing. For example, strategy for our material could be: first try to remove stock from high rack storage, and if there is no stock there try picking from the bulk storage area. Used when we have

to pick some quantity for customer (delivery) or reservation.

- **Stock placement strategy:** same as above with opposite direction, when we want to place our stock from production to our warehouse, we want the system to search different storage types (areas) for placement in the warehouse. We want the system to search in the right order for this material so we can set up the appropriate strategy.
- **Storage section indicator:** when using indicators for stock removal and placement, we might encounter a problem that in the same storage type, we could have storage bins that are smaller than usual and our material cannot be placed there. That is where we can use storage section indicator, to instruct the system not to place our material in storage bins of certain section (smaller bins).
- **Bulk storage indicator:** this is used to indicate a special case for using up a bulk storage type capacity. * Other fields include some special indicators, like special movement indicator, two step picking, allowing adding to existing stock in the storage bin already containing this material.

These settings are very complex and require more in-depth knowledge of Warehouse Management.

Warehouse Management 2 View

This view is maintainable on one more level than the previous view. Here are located palletization data (quantities of material and types of pallets used) in the first section which isn't maintained on storage type level but like previous view on warehouse number level. Lower section of the screen shows several fields that are storage type related settings.

The screenshot shows the SAP Warehouse Management 2 View interface. At the top, there are three tabs: 'Warehouse Mgmt 1', 'Warehouse Mgmt 2' (which is currently selected), and 'Quality management'. Below the tabs, material details are displayed: Material '10599999' (LCD TV 40"), Plant '0001' (Werk 0001), Whse No. '001' (Central whse (full WM)), and Stge Type '002' (Shelf Storage). A red circle labeled '1' is placed over the 'Stge Type' field.

Palletization data

LE quantity	Un	SUT
1.	12	PCS
2.		E1
3.		

A red circle labeled '2' is placed over the 'E1' entry in the SUT column of the first row.

Storage bin stock

Storage Bin	3	Picking Area	6
Maximum bin quantity	4	Control quantity	7
Minimum bin quantity	5	Replenishment qty	8
Rounding qty			12

Red circles numbered 3 through 8 are placed around the following fields: Storage Bin (3), Maximum bin quantity (4), Minimum bin quantity (5), Picking Area (6), Control quantity (7), and Replenishment qty (8).

- **Storage type:** the storage type for which we are extending/maintaining our material. In this case, we want our LCD TV to be stored at shelf storage (we have already selected this strategy in WM 1 View).
- **Palletization data:** this is information about how our material is packed onto different storage unit types. For example, our material is packed 12 pieces on Euro pallet 1m high (defined as E1 in our system).
- **Storage bin:** if we wanted to store our material in a predefined storage bin we would maintain this field. In this case, we want a system to propose a bin for our material every time we are executing putaway.
- **Maximum bin quantity:** this is usually a number that is maintained in palletization data, in our case 12 PCS. Used in check while placing the stock, system will not allow more than 12 PCS to be stored in one bin. Warehouse Management 2 View in material master
- **Minimum bin quantity:** this should be maintained only if replenishment is active for the storage type (mostly used in fixed bin storage types). In our case, if storage bin stock falls below 1 (no more TVs in the storage bin) system would request replenishment to be made, to fill the storage bin with another pallet. This is a very complex topic and requires more in-depth knowledge of warehouse management system in SAP.
- **Picking area:** like storage sections are grouping bins together in putaway process, picking areas group storage bins for picking process.
- **Control quantity:** for certain strategies (min/max quantity) utilized on storage

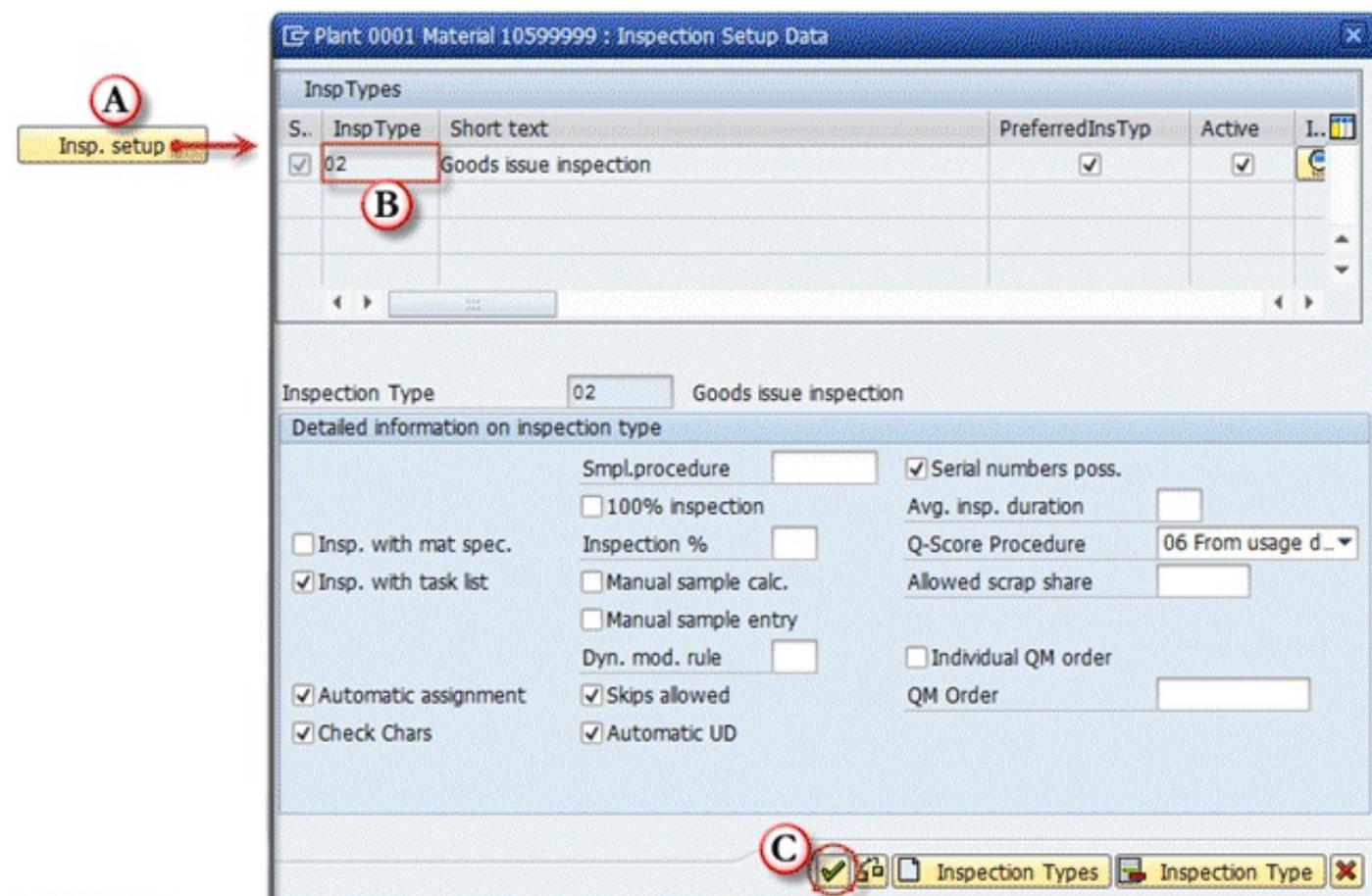
type level, this is the quantity that signals the system that if the requested quantity for picking is higher than defined in this field, system should skip this storage type and move on to the next in our stock removal strategy. This is used in cases where we want to pick small quantities of material from one type of storage, and large quantities from another storage type.

- **Replenishment quantity:** when system determines that replenishment of our bin is needed it will replenish with quantity in this field. We have defined that we want replenishment when stock falls to zero, and we want it to be replenished by entire pallet – 12 pieces.

Quality management View

This view is used for material settings for quality inspection processes in Quality Management module. Administrators of that module are responsible for providing the information for maintenance of this view.

- **Inspection setup:** this indicates if at least one inspection type has been set up. In the setup itself, you can choose the inspection type you want to use for this material. Setup types have to be predefined by your QM consultant.
Step A: Click the Inspection setup button; Step B: choose the appropriate inspection type predefined by QM team; Step C: confirm changes.



Choosing the inspection type on a subscreen of Quality Management view

- **Post to inspection stock:** specify if the material is subject to quality inspection. If this is checked, an inspection lot will be created for the inspection type assigned.
- **Material authorization group:** you can define authorizations for QM users based on the authorization group, for example if you want some materials inspected by some users, and other materials by other users.
- **Inspection interval (in days):** interval between recurring inspections for the same batch.
- **QM in Procurement active:** activating Quality management for material in the procurement process.
- **QM control key:** used to define conditions in quality inspection in procurement. You can set a delivery block, invoice block and other types of blocks until material inspection is done. Possible entries are predefined in customizing by the consultant.
- **Certificate type:** quality certificate type (possible entries are predefined in customizing by QM consultant).
- **Target QM system:** Required QM system by vendor. We specify if vendor needs to have ISO 9001 or other types of QM systems implemented and certified.

The screenshot shows the SAP Quality Management setup screen for material 10599999 (LCD TV 40") at plant 0001. The screen is divided into several sections:

- General data:**
 - Base Unit of Measure: PCS (radio button selected), Piece
 - Unit of issue: (empty field)
 - QM material auth.: (empty field) (circled with red number 3)
 - GR Processing Time: 2 days
 - Catalog profile: (empty field)
 - Plant-sp.matl status: (empty field)
 - Inspection setup: (checkbox) (circled with red number 1)
 - Post to insp. stock: (checkbox) (circled with red number 2)
 - Documentation reqd: (checkbox) (unchecked)
 - Inspection interval: (empty field) days (circled with red number 4)
 - Valid from: (empty field)
- Procurement data:**
 - QM proc. active: (checkbox) (circled with red number 5)
 - QM Control Key: (empty field) (circled with red number 6)
 - Certificate type: (empty field) (circled with red number 7)
 - Target QM system: (empty field) (circled with red number 8)
 - Tech. delivery terms: (checkbox) (unchecked)

Accounting 1 View

Data entered in this view determines the way that accounting will be processed for this material. Data is supplied by your FI/CO team, and background customizing by your FI/CO consultant.

The screenshot shows the SAP Fiori interface for material valuation settings. At the top, there are tabs for Quality management, Accounting 1 (selected), Accounting 2, Costing 1, and Costing 2. Below the tabs, material number 10599999 and description LCD TV 40" are displayed. Plant 0001 and Werk 0001 are also shown. A help icon is present.

General data:

- Base Unit of Measure: PCS (Piece)
- Currency: EUR
- Division: 10
- Valuation Category: (empty)
- Current period: 03 1998
- Price determ.: (empty) ML act.

Current valuation:

Valuation Class: 1 7920	Proj. stk val. class: (empty)
VC: Sales order stk: 2	Price Unit: 1
Price Control: 3 S	Standard price: 5
Moving price: 4	Total Value: 0,00
Total Stock: 0	<input type="checkbox"/> Valuated Un
Future price: (empty)	Valid from: (empty)

Buttons at the bottom: Previous period/year and Std cost estimate.

- **Valuation class:** depending on your system settings, but valuation class is in most times influenced by material type, so you will have a valuation class for finished goods, and another for trading goods. In our case valuation class, 7920 is SAP default class for finished goods. For HALB, this class is 7900 by default, and for ROH we can use 3000.
- **Valuation Class for sales order stock:** you can assign a valuation class for sales order stock to override the default valuation class defined in field 1 - Valuation Class. Not recommended.
- **Price control:** this indicated which type of internal price will be used for the material. It can be set to S – standard cost, or V moving average price (variable price). In most cases, S is used for finished goods while V is used for trading goods, but the settings depend on your SD/FI/CO teams preference.
- **Moving price:** you can populate this field if price control is set to V.
- **Standard price:** you can populate this field if price control is set to S. Your controlling team can use transactions for generating these prices based on the information contained in production orders, purchase orders, so that

these prices don't have to be entered manually for each material. We can also maintain **Valuation Category** field, which determines whether stocks of the material are valued together or separately.

Accounting 2 View

This view isn't used very often in production environment, the most common setting for this view is leaving all the fields empty. Basically, it consists of special tax information in accounting which is hardly ever relevant. Determination of the lowest value of the material, material devaluation through its status (moving, slow moving) etc. If this view is being used by your financial accounting department, the department should provide you the information for maintaining this view.

The screenshot shows the SAP Fiori interface for the Accounting 2 View. At the top, there are tabs: Accounting 1, Accounting 2 (which is selected), Plant stock, Stor. loc. stck, and Basic data 1. Below the tabs, there are two rows of input fields. The first row contains 'Material' with value '10599999' and 'LCD TV 40"', and 'Plant' with value '0001' and 'Werk 0001'. To the right of these fields is a blue info icon. The second row contains 'Devaluation ind.' with a checkbox and 'Price unit' with an empty input field. Below these rows is a section titled 'Determination of lowest value' containing six input fields arranged in two columns of three. The left column contains 'Tax price 1', 'Tax price 2', 'Tax price 3', and 'Devaluation ind.' with a checked checkbox. The right column contains 'Commercial price 1', 'Commercial price 2', 'Commercial price 3', and 'Price unit' with an empty input field. At the bottom left is a section titled 'LIFO data' with a checkbox labeled 'LIFO/FIFO-relevant' and an empty input field for 'LIFO pool'.

Costing 1 View

Costing view is used to determine the product cost. It can take various inputs, but for production the most important is the costing lot size. That means that an optimal lot size used for product cost estimate can be set here. Product can be produced in a 100 pieces lot or in a 3700 pieces lot; therefore the costing for those two situations are different. That is because there are some fixed expenses (time for setting up appropriate tool, mechanics work). In the first case, our product cost might be as high as 126 USD/pcs while in the other case, it could be 111 USD, which is remarkably different, so production has to try to plan their activities and stock levels of all materials in a plant in a way that our production lot size doesn't vary too much and be as close to our optimal lot as possible.

The screenshot shows the SAP Costing 2 view. At the top, there are tabs: Accounting 2, Costing 1, Costing 2 (which is selected), and Basic data 1. Below the tabs, there are fields for Material (10599999) and Plant (0001), and a dropdown for LCD TV 40". A help icon is also present.

General data

- Base Unit of Measure: PCS (radio button selected)
- Do Not Cost (checkbox): 1
- With Qty Structure (checkbox): 2
- Material origin (checkbox): 3
- Variance Key: 4 (000001)
- Profit Center: SAP-DUMMY

Quantity structure data

- Alternative BOM: [checkbox]
- BOM Usage: [checkbox]
- Group: [checkbox]
- Group Counter: [checkbox]
- Task List Type: [checkbox]
- SpecProcurement Costing: [checkbox]
- Costing Lot Size: 5 (600)
 - Joint production
 - Versions
- Co-product (checkbox): checked
- Fxd Price (checkbox): [checkbox]
- Version Indicator (checkbox): [checkbox]
- Production Version: [checkbox]

- Do Not Cost:** no costing is estimated. Neither material cost nor sales order cost is created, just as procurement alternatives can't be created as well. If you want costing at all, leave the field blank.
- With quantity structure:** indicates if we want to use quantity structure data for cost estimating (lot size and other quantity information).
- Material origin:** this indicates if material number should be assigned to cost element item in CO module.
- Variance key:** determines how cost variance is calculated.
- Costing lot size:** it is only useful if check box "With Qty structure" is checked. It determines the lot quantity used for a cost estimate calculation.

Costing 2 View

In figure 1 – Valuation data, we can see fields already covered in previous views (Accounting 1 view). Other than that there are fields to maintain planned prices (Standard cost estimate will be copied to Planned price if standard cost estimate is checked and created).

Costing 1 Costing 2 Basic data 1

Material	10599999	LCD TV 40"		
Plant	0001	Werk 0001		
Standard Cost Estimate				
Cost Estimate	Future		Current	Previous
Period / Fiscal Year	0		0	
Planned price			0,00	0,00
Standard price			0,00	
Planned prices				
Planned price 1			Planned price date 1	
Planned price 2			Planned price date 2	
Planned price 3			Planned price date 3	
Valuation Data				
Valuation Class	7920	Valuation Category		
VC: Sales order stk		Proj. stk val. class		
Price Control	S	Current period	3 1998	
Price Unit	1	Currency	EUR	
Moving price		Standard price	0,00	

Purchasing View

In purchasing view, we can find several fields already present at previously covered views like Freight group, plant special material status etc. We also have few new fields available only from Purchasing view.

Sales text Purchasing Foreign trade import Purchase order text MRP 1

Material	10599999	LCD TV 40"	<input type="button" value="H"/>
Plant	0001	Werk 0001	
General Data			
Base Unit of Measure	PCS	Piece	Order Unit 2 PAL
Purchasing Group	1 001	Material Group	100
Plant-sp.matl status	<input type="checkbox"/>	Valid from	<input type="text"/>
Tax ind. f. material	<input type="checkbox"/>	Qual.f.FreeGoodsDis.	<input type="checkbox"/>
Material freight grp	<input type="text"/>	<input type="checkbox"/> Autom. PO	
<input type="checkbox"/> Batch management			
Purchasing values			
Purchasing value key	<input type="text"/>	Shipping Instr.	
1st Rem./Exped.	0 days	Underdel. Tolerance	0,0 percent
2nd Reminder/Exped.	0 days	Overdeliv. Tolerance	0,0 percent
3rd Reminder/Exped.	0 days	Min. Del. Qty in %	0,0 percent
StdValueDelivDateVar	0 days	<input type="checkbox"/> Unltd Overdelivery	<input type="checkbox"/> Acknowledgment Req'd
Other data / manufacturer data			
GR Processing Time	2 days	<input checked="" type="checkbox"/> Post to insp. stock	<input type="checkbox"/> Critical Part
Quota arr. usage	<input type="checkbox"/>	<input type="checkbox"/> Source list	<input type="checkbox"/> JIT Sched. Indicator

- **Purchasing group:** you can define various purchasing groups like raw material purchasing, trading goods purchasing, service purchasing etc. This value will be the default value for all the items entered in purchasing documents.
- **Order unit:** default unit used for ordering this material. We have used pallet as default so if we enter a quantity of 10 it means we are requesting 10 pallets of the material (120 pieces in this case). You can see the **Purchasing values** section in this view. The only field you have to populate is the **Purchasing value key** which is maintained in customizing consisting of all the values you can see in this section (underdelivery tolerance, overdelivery tolerance). When you define the key in customizing, the values from the key are transferred to all the fields in this section.

Foreign Trade Import View

Exactly the same view as a foreign trade export view.

Purchasing Foreign trade import Purchase order text MRP 1 MR... 

Material 10599999 LCD TV 40" 

Plant 0001 Werk 0001

Foreign trade data

Comm./imp. code no.	85411000	Diodes, other than photodiodes and	Un <input type="checkbox"/>
Export/import group	0001 G0001		
CAS number (pharm.)			
PRODCOM no.			
Control code			

Origin / EU market organization / preferences

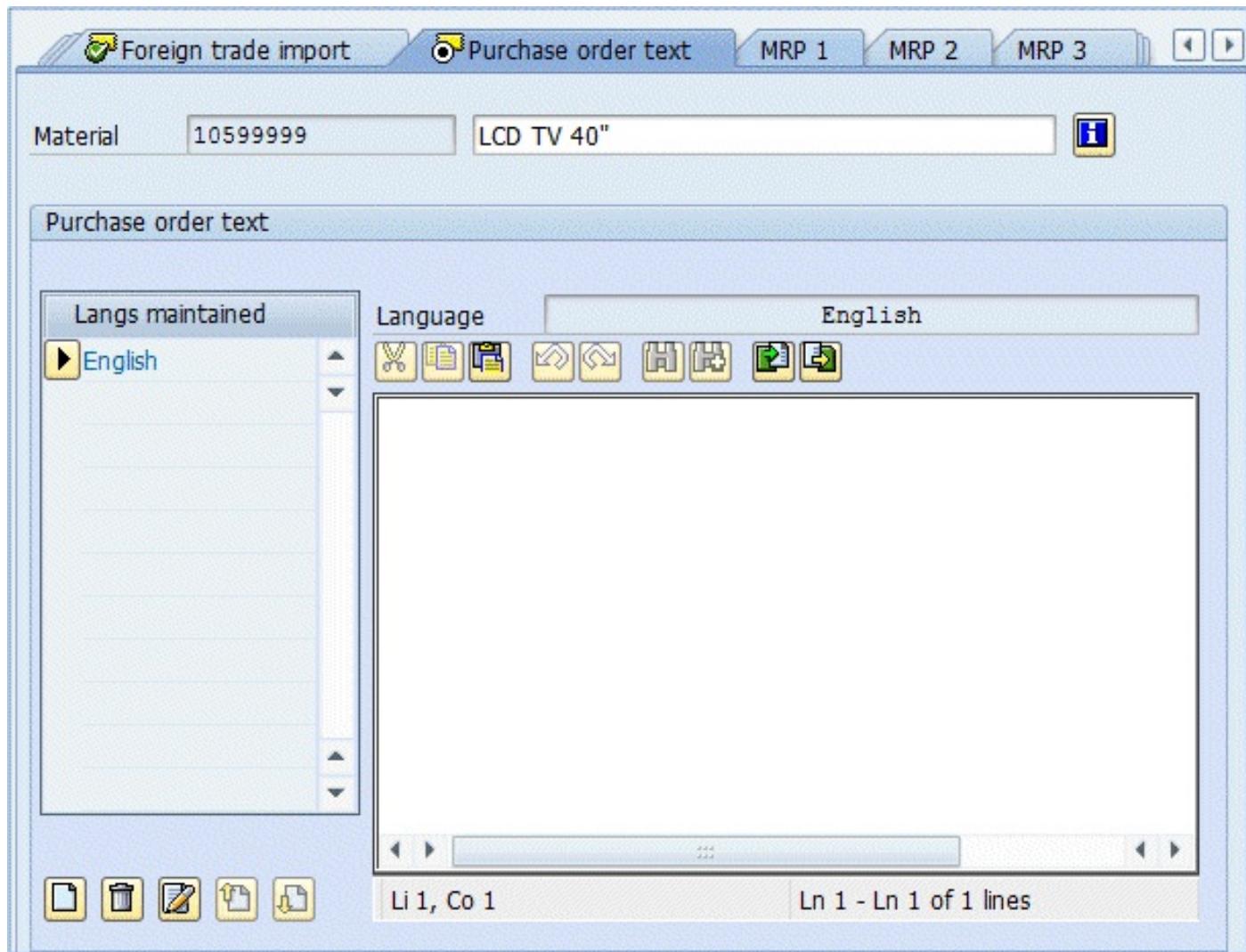
Country of origin	DE	Region of origin	<input type="checkbox"/>
CAP product list no.			
CAP prod. group			
Preference status	Not maintained	Customs tariff prefs	
Vendor decl. status	Not maintained		

Legal control

Exemption Certificate	<input type="checkbox"/>	Exemption cert. no.	<input type="checkbox"/>
Iss.date of ex.cert.	<input type="checkbox"/>		
<input type="checkbox"/> Military goods	Legal control		

Purchase order text View

Exactly the same view as a sales order text view.



Additional data

Besides material master views, we have another level of maintenance in MM01 transaction. It is also with no reference to organizational levels. From any View in material master you can choose button Additional data:



Button for switching to additional data maintenance

Once selected, you can see that we can return to MM Views by clicking on Main Data button.

Language	Material Description
EN	LCD TV 40"
FR	LCD TV 40"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Product descriptions for various languages in additional data

First tab in additional data is about material description. You saw that we have already maintained material description on Basic View 1, but we have only defined a description for the default language (logon language for user in this session). In additional data, we can define descriptions for any other language needed. For example, I have created description for French language. In our case, material description is the same for both languages (in other cases you might need to translate the description). This is important because if you have a customer from France and they are accepting only french product name, you have to define it here, and set communication language for that customer to French (this is done in SD module and is a point where integration between MM and SD is utilized). Maintenance of alternative units of measure is utilized in the second tab. You can see that there is a record for 1 PCS, which equals to 1 PCS, and this is a record for our base UOM. The other one is 1 PAL equals 12 PCS – it means that our company packages LCD TV sets 40" in the amount of 12 pieces on a pallet. You can add as many alternative UOMs as you like, as well as delete them by using the Delete Line button. Here, you can also maintain all EAN codes for all units of measure. In SD module, you can create sales orders by any unit of measure maintained in material master. So practically it's the same creating sales order for 12 pieces, or 1 pallet.

Material 10599999

LCD TV 40"

Units of measure grp

Units of measure/EANs/dimensions

X	A...	Meas...	<.	Y	B...	Meas...	EAN/UPC	Ct	A.	A	Lengt
1	PCS	Piece	<=;	1	PCS	Piece					
1	PAL	Pallet	<=;	12	PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					
			<=;		PCS	Piece					



Delete line

Entry 1 of 2

Chapter 2: Purchasing

Introduction to Purchasing and purchase requisition

Purchasing is a component of SAP MM module and its process can be roughly depicted in below diagram.



MRP (material resource planning) creates procurement proposal and later gets converted into Purchase Requisition. Next step is assigning source to Purchase Requisition, and release of Purchase Requisition. The PR gets converted to Purchase Order and upon goods receipt an invoice receipt can be done to complete the purchasing process. Additionally payment is processed (in FI module).

Procurement doesn't have to start by the MRP, it can be initiated by consumption based planning or by direct creation of PR or PO.

MRP is a system function to determine the material requirements on both the material and BoM level. A BoM (Bill of Materials) is a list of components and subcomponents a single material is consisting of.

One of the mere basic documents in Purchasing in SAP is a purchase requisition.

Purchase requisition

Purchase requisitions can be created automatically by system or manually. They can be converted in purchase orders but only upon release (approval of purchase requisition).

We will cover several topic in this lesson that can help understand and create the purchase requisition.

Number ranges in purchase requisitions are required just as in other document, for the purpose of assigning the document number to new created documents.

Later, these number ranges are being assigned to different document types we can define to be used in purchase requisition processing.

We will also cover requirement tracking number which is basically a number/letter combo which can be uniquely assigned to multiple documents in order to track certain important requirements.

You will see how the source determination works and why it's useful, as well as how this source can be assigned to our purchasing document.

Finally, you will find out how to process the purchase requisition, from its creation until converting it to a purchase order.

Number ranges for Purchase Requisition

Assigning of number ranges for purchase requisition works on document type. Several different number ranges can be created and afterwards assigned to a specific purchase requisition type.

This is done in customizing. Requisition document types can have two number ranges assigned. One internal and one external range are assigned to each document type. Internal number ranges are being automatically incremented by the system, and external are assigned manually.

Screen below represents a list of number ranges for purchase requisition.

From number is the first number in the range, To number is the last available number and the current number is the last assigned number to a document.

In addition, there is a check box indicating if this is an external number range.

For example, an internal number range can be defined as a range from 20000000 to 30000000, in this case documents of the document type that is assigned this interval will be numerated starting from 20000001 and will be incremented by 1 for each new document created. The last number available for this interval will be 30000000, and if your documents fill up the entire number range it has to be extended. It will rarely happen as it would mean that you would have 10 million purchase requisition documents.

Maintain Number Range Intervals					
NR Object		Purchase requisition			
Intervals					
N.	From number	To number	Current number	E..	
01	0010000000	0019999999	10003219	<input type="checkbox"/>	
02	0090000000	0099999999		<input checked="" type="checkbox"/>	
03	2000000000	2999999999		<input checked="" type="checkbox"/>	
04	3000000000	3999999999	0	<input type="checkbox"/>	

Document type definition

Document type definition is an action of defining different document types for a purchase requisition. It is useful in grouping purchase requisitions and specifying its use in more detail. For example, we can have standard PRs, subcontracting and stock transfer. Every document type suits a special need and is configured to be used in that way.

In document type definition, you can define a number of options. Number intervals (internal and external), item interval, field selection key, control indicator, overall release indicator (defines if all the items in PR are released simultaneously or individually).

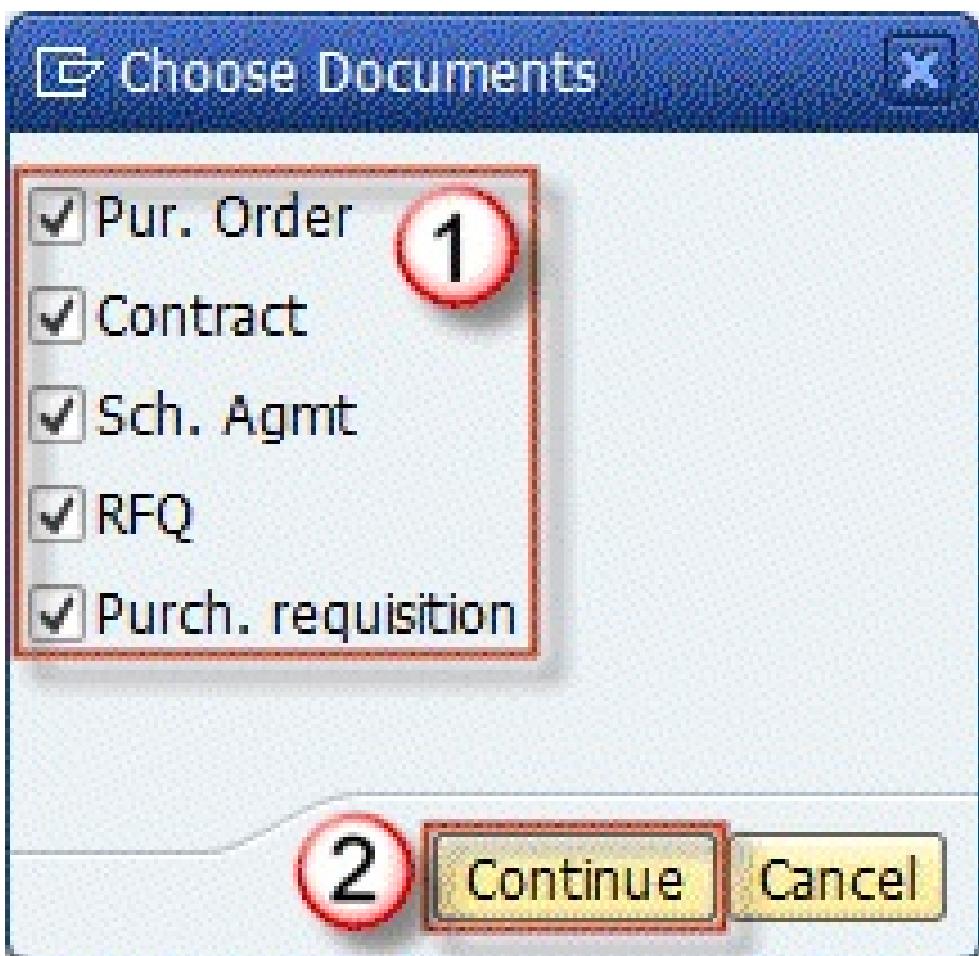
Standard Purchase Requisition document type in SAP is defined in all installations as NB.

T...	Doc. Type Descript.	ItmInt.	NoRgeInt	NoRge Ext	FieldSel.	C..	O.	Lay...	Doc
FO	Framework Requisn	10	01	02	FOF		<input type="checkbox"/>	SRV	
NB	Purchase Requisition	10	01	02	NBB		<input type="checkbox"/>		
RV	Outl. Agmt Requisn	10	01	02	RVB	R	<input type="checkbox"/>		

Requirement tracking number

This number is used for tracking specific requirements. It can be entered during purchase requisition creation and is copied into purchase order document. It is maintained on item level and items can be selected by this number in several reports like **MELB**.

- Execute **MELB** transaction.
- Click the **Choose** button.



When you click **Continue**, you will be back to the initial selection screen.. You also have a variety of select options and should choose the most suitable options to narrow the search.

- Enter requirement tracking number(s).
- Execute.

Purchasing Transactions per Requirement Tracking Number

Field	Value	Action
Requirement tracking number	(highlighted with a red border)	1
Purchasing organization		to [button]
Document Type		to [button]
Purchasing Group		to [button]
Plant		to [button]
Supplying Plant		to [button]
Item Category		to [button]
Account Assignment Category		to [button]
Material		to [button]
Material Group		to [button]
Short Text		[button]

You will be presented a list of documents containing the tracking number.

Source determination

Source determination assists in finding the most suitable source for a requirement, for example, it can suggest which outline agreement, which internal procurement source (plant) or which vendor can be used for ordering specific materials at given time.

Source determination takes various data as parameters for the actual determination process. These include Outline agreement, Purchase info record, Plant in our company, Quota arrangement, Source list.

All this is taken into account while determining the best possible source for a requirement.

First check is done via **Quota Arrangement** where system determines if there is a suitable source with the relevant quota arrangement for the material, and if suitable source is found it is selected, and additional search for the source is aborted.

If not, system takes **source list** into account and searched for valid sources there. A source list consists of fixed and blocked records. **Fixed records** are for fixed vendors for specific material valid for a certain period. **Blocked records** cannot be used as a source while they are in this status.

Finally system looks up the **outline agreement** and **info record** for credible sources and assigns them the requisition. You have seen in the previous lesson what is a purchase info record, and outline agreement is a scheduling agreement or contract which is also used in the source determination process as input information.

To use the source determination, you need to tick the Determine Source checkbox on the purchase requisition initial screen.



Assignment of source

System can perform background or foreground source assignment.

If the search is done in the foreground mode, and more than one valid source is found, a selection list appears from which user should select the appropriate source. If only one suitable source is found, it is assigned automatically.

If the search is done in the background, a single source must be determined and to accomplish that the system will perform various functions in the lookup.

For example, outline agreements have priority over the purchase info record source and in case of conflict an outline agreement source is selected.

If more than one valid source is found in outline agreements, unique valid source will be the one for the regular vendor, and if neither record is for a regular vendor, source will have to be determined manually.

You can see how two sources are offered by the system, from which we have to choose the better manually.

The screenshot shows the SAP ERP interface for selecting a source of supply. The top navigation bar includes tabs for 'Material Data', 'Quantities/Dates', 'Valuation', 'Source of Supply' (which is currently selected), 'Status', 'Contact Person', and 'Texts'. Below the tabs is a toolbar with icons for 'Price Simulation', 'Price Simulation/All', 'Vendor Evaluation', 'Availability', and other maintenance functions. A table lists two vendors: VENDOR1 and VENDOR2. The table columns include Vendor ID, Name, Info/agmt., Net p..., Crcy, O..., Real. Date, POrg, Plant, and Text. VENDOR1 has a value of 5300003500 and a net price of 233,33 EUR. VENDOR2 has a value of 5300003501 and a net price of 107,50 EUR. A message box at the bottom left says 'Choose a source of supply'. The SAP logo is in the bottom right corner.

A	Vendor	PPI.	Name	Info/agmt.	It...	Net p...	Crcy	O...	Real. Date	POrg	Plant	Text
	VENDOR1		Vendor 1	5300003500		233,33	EUR		21.05.2013	0001		Stand:
	VENDOR2		Vendor2	5300003501		107,50	EUR		19.05.2013	0001	0001	Stand:

How to create a purchase info record

Purchase Info Record

Purchase info records are information about terms for purchasing a specific material from a vendor. They are maintained at vendor/material combination and can contain data for pricing and conditions, overdelivering and underdelivering limits, planned delivery date, availability period.

Procurement types in info record

1. Standard

A standard info record contains information for standard purchase orders. The info records can be created for materials and services with and without master records.

2. Subcontracting

A subcontractor info record contains ordering information for subcontract orders. For example, if you subcontract the assembly of a component, the subcontractor info record would include the vendor's (subcontractor's) price for assembling the component.

3. Pipeline

A pipeline info record contains information on a vendor's commodity that is supplied through a pipeline or pipes (for example, oil or water) or by similar means (for example, electricity through the mains). The info record contains the vendor's price for the use of such commodities by the buyer ("pipeline withdrawals"). You can keep withdrawal/usage prices for different validity periods.

4. Consignment

A consignment info record contains information on a material that vendors keep available at their own cost on the orderer's premises. The info record contains the vendor's price for withdrawals by the orderer from consignment stock. As in the case of the pipeline info record, you can keep prices for different validity periods.

How to create a Purchase Info Record

Purchase info records can be created for every type of procurement, and are processed using the transaction code **ME11**.

Step 1)

1. Enter transaction ME11 in command prompt.
2. Key for creating the info record is Vendor/Material combination. You can enter purchasing organization and/or Plant.
3. You have to choose an info category for desired procurement type.
Press **ENTER** to proceed to the next screen.



Step 2) Here you give information on **Info Record General Data**. This information is maintained for all procurement types (maintained only once for all: Standard, Subcontracting, Pipeline, Consignment), and there are the most relevant fields:

1. **Reminder 1, 2, 3:** These three fields indicate remainders to be issued to vendor. Negative value indicates that the vendor should be prior to quotation

- or delivery date.
2. **Vendor mat. No:** Material number that is used by the vendor for this material.
 3. **Vendor material group:** material group used by the vendor for this material.
 4. **Sales person:** Name of the contact person.
 5. **Telephone:** phone number of contact person or vendor
 6. **Return agreement:** this can indicate if goods return is available, and if there are refunds available.
 7. **Order unit:** unit in which this material is ordered by vendor.
 8. **Certificate category:** type of certificate issued by the vendor that applies to this material.
 9. **Country of origin:** country in which this material is produced.

Create Info Record: General Data

Purch. Org. Data 1 Conditions Texts

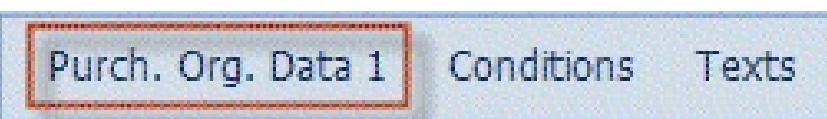
Info Record	VENDOR1	Vendor 1
Vendor	10599999	LCD TV 40"
Material	100	Material group 100
Material Group		

Vendor Data		Origin Data
1st Rem./Exped.	-1 Days	Certif. Cat. 1 8
2nd Rem./Exped.	1 Days	Certificate
3rd Rem./Exped.	7 Days	Valid to
Vendor Mat. No.	79855899	Ctry of Origin AT 9
Vendor Subrange		Region
VSR Sort No.		Number
Vendor Mat. Grp	1200	Manufacturer
Points	/ 1 PCS	
Salesperson	John Doe	Supply Option
Telephone	+999 999 999 999	Available from
Return Agmt	03	Available to
Prior Vendor		<input type="checkbox"/> Regular Vendor

Purchase Order Unit of Measure	
Order Unit	PAL 7
Conversion	1 PAL <-> 12 PCS
Var. Order Unit	Not active

After entering all the desired data, we can click the button Purch. Org. Data 1 to be transferred to the screen for entering Purchase Organization dependent

information.



Step 3) This view is maintained separately for every procurement type. We have chosen Standard procurement type, and we can populate several relevant fields here.

1. **Planned delivery time:** default time in days in which the material delivery is planned.
2. **Purchasing group:** purchasing group mentioned in material master lessons.
3. **Standard quantity:** standard purchase quantity for material.
4. **Minimum quantity:** do not allow procurement of a quantity less than stated here.
5. **Maximum quantity:** we do not want to purchase more than this quantity at a time.
6. **Net price:** net price of material per procurement unit.
7. **Incoterms:** trading and delivery terms.

Create Info Record: Purch. Organization Data 1

General Data Conditions Texts

Info Record		
Vendor	VENDOR1	Vendor 1
Material	10599999	LCD TV 40"
Material Group	100	Material group 100
Purchasing Org.	0001	Standard

Control

Pl. Deliv. Time	(1) 1 Days	Tol. Underdl.	<input type="text"/> %	<input type="checkbox"/> No MText
Purch. Group	(2) 001	Tol. Overdl.	<input type="text"/> %	<input type="checkbox"/> Ackn. Rqd
Standard Qty	(3) 40	<input type="checkbox"/> Unlimited	<input type="checkbox"/> Conf. Ctrl	<input type="checkbox"/> Tax Code
Minimum Qty	(4) 20	<input type="checkbox"/> GR-Bsd IV	<input type="checkbox"/> No ERS	
Rem. Shelf Life	<input type="text"/> D			
Shippg Instr.	<input type="checkbox"/>	Procedure	<input type="text"/>	
Max. Quantity	(5) 200	Rndg Prof.	<input type="text"/>	UoM Group <input type="text"/>

Conditions

Net Price	(6) 2.800,00 EUR / 1 PAL	Valid to	31.12.9999
Effective Price	2.800,00 EUR / 1 PAL	<input type="checkbox"/> No Cash Disc.	
Qty Conv.	1 PAL <-> 1 PAL	Cond. Grp	<input type="text"/>
Pr. Date Cat.	<input type="checkbox"/> No Control		
Incoterms	(7) EXW Wien		

Step 4) Press the Conditions button.



The next screen is used for maintaining pricing conditions and as you can see, price that was entered on the previous screen was transferred to this screen.

1. **Condition type:** you can enter a condition type in this field.
2. **Amount per unit:** in these 4 fields you can enter an amount and amount unit (for example 2.800 EUR) and quantity for which this amount is valid (1 PAL).
3. **Valid from.**
4. **Valid to.** Fields 3 and 4 represent a validity period for condition(s). It means that this condition is valid from 10.05.2013. until 31.12.9999. (infinite future validity).

Create Gross Price Condition (PB00) : Condition Supplements

The screenshot shows the SAP Fiori interface for creating a Gross Price Condition (PB00). The top bar displays the title "Create Gross Price Condition (PB00) : Condition Supplements". Below the title is a toolbar with various icons. The main area is divided into sections:

- Variable key:** A table showing vendor (VENDOR1), material (10599999), POrg (0001), and description (Standard).
- Validity:** Fields for "Valid From" (3 10.05.2013) and "Valid to" (4 31.12.9999).
- Condition supplements:** A table with columns: C..., Name, Amount, Unit, per, U., Deleti..., Scales, and Texts. One row is selected, showing "PB00" in the C... column, "Gross Price" in the Name column, "2.800,00" in the Amount column, "EUR" in the Unit column, and "1 PAL" in the per column. Two specific cells are highlighted with red circles:
 - Cell 1: The first cell in the Name column, which is empty.
 - Cell 2: The first cell in the Amount column, which contains "2.800,00".

Step 5) Standard texts for this material/vendor combination can be defined in Texts view of the purchase info record.

1. You can enter the info record note in these five lines, and it will be active only if a check box for info record note is ticked.
2. Same logic as previous except that this is a standard item text that will be copied to purchase order item.

Info Record	<input type="text"/>	<input type="text"/>	
Purchasing Org.	0001	Standard	
		Language EN	
Info record texts			
TxtType	Text	More text	Status
<input type="checkbox"/> Info record note	(1)	<input type="checkbox"/>	
	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
<input type="checkbox"/> Purchase order text	(2)	<input type="checkbox"/>	
	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		

Once you have entered all the desired information about our material/vendor combination you can save the transaction data and will be presented with information about the purchase info record number assigned to our info record. We can use it for future reference to edit or display our record.

 Purchasing info record 5300003500 0001 created

Now we can set up the other three procurement type info records, which you need to maintain only in the Purchase Organization data 1 screen.

How to Change a Purchase Info Record

We said that the transaction used to create info record is code **ME11**. When we need to change the info record we can use code**ME12** t-code, and for display only we should use code **ME13**, just as SAP standards are.

Step 1)

1. Transaction code to change the info record.
2. **Vendor, material, purchase organization, plant, info record number data:** we use it to identify what exactly we need to change in our session. If we fill in all the fields, we will be able to change all the existing views and data in those views. For example, if we don't specify Purchase Organization we will not be able to edit the Purchase organization Data 1 View.
3. **Info category** (purchasing type). We are changing the data for this info category (only for views that are info category dependent).

ME12

1

Change Info Record: Initial

Vendor	VENDOR1
Material	10599999
Purchasing Org.	0001
Plant	
Info Record	5300003500

2

Info category
<input checked="" type="radio"/> Standard
<input type="radio"/> Subcontracting
<input type="radio"/> Pipeline
<input type="radio"/> Consignment

3

Step 2) Hit **ENTER** button. You will be presented the following screen.



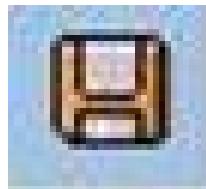
Change Info Record: General Data

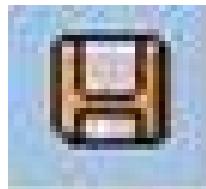
Purch. Org. Data 1 Conditions Texts

Info Record	5300003500	
Vendor	VENDOR1	Vendor 1
Material	10599999	LCD TV 40"
Material Group	100	Material group 100

Vendor Data		Origin Data		
1st Rem./Exped.	1-	Days	Certif. Cat.	1 Certif. 1
2nd Rem./Exped.	1	Days	Certificate	
3rd Rem./Exped.	7	Days	Valid to	
Vendor Mat. No.	79855899			
Vendor Subrange				
VSR Sort No.				
Vendor Mat. Grp	1200			
Points		/ 1	PCS	
Salesperson	John Doe			
Telephone	+999 999 999 999			
Return Agmt	03			
Prior Vendor				
Supply Option				
Available from				
Available to				
<input type="checkbox"/> Regular Vendor				

Purchase Order Unit of Measure			
Order Unit	PAL		
Conversion	1	PAL	<-> 12 PCS
Var. Order Unit		Not active	



Make the required changes and click the  save button .

NOTE: In codeME13, can be used to view a record. There is no possibility to edit or save a record.



Display Info Record: Purch. Organization Data 1

General Data Conditions Texts

Info Record	5300003500	
Vendor	VENDOR1	Vendor 1
Material	10599999	LCD TV 40"
Material Group	100	Material group 100
Purchasing Org.	0001	Subcontracting

Control

Pl. Deliv. Time	1	Days	Tol. Underdl.	0,0	%	<input type="checkbox"/> No MText
Purch. Group	001		Tol. Overdl.	0,0	%	<input type="checkbox"/> Ackn. Rqd
Standard Qty	40	PAL	<input type="checkbox"/> Unlimited			Conf. Ctrl <input type="checkbox"/>
Minimum Qty	20	PAL	<input type="checkbox"/> GR-Bsd IV			Tax Code <input type="checkbox"/>
Rem. Shelf Life	0	D	<input type="checkbox"/> No ERS			
Shippg Instr.	<input type="checkbox"/>	Changes are not possible in display mode!				
Max. Quantity	200	PAL	Procedure			
			Rndg Prof.			UoM Group <input type="checkbox"/>

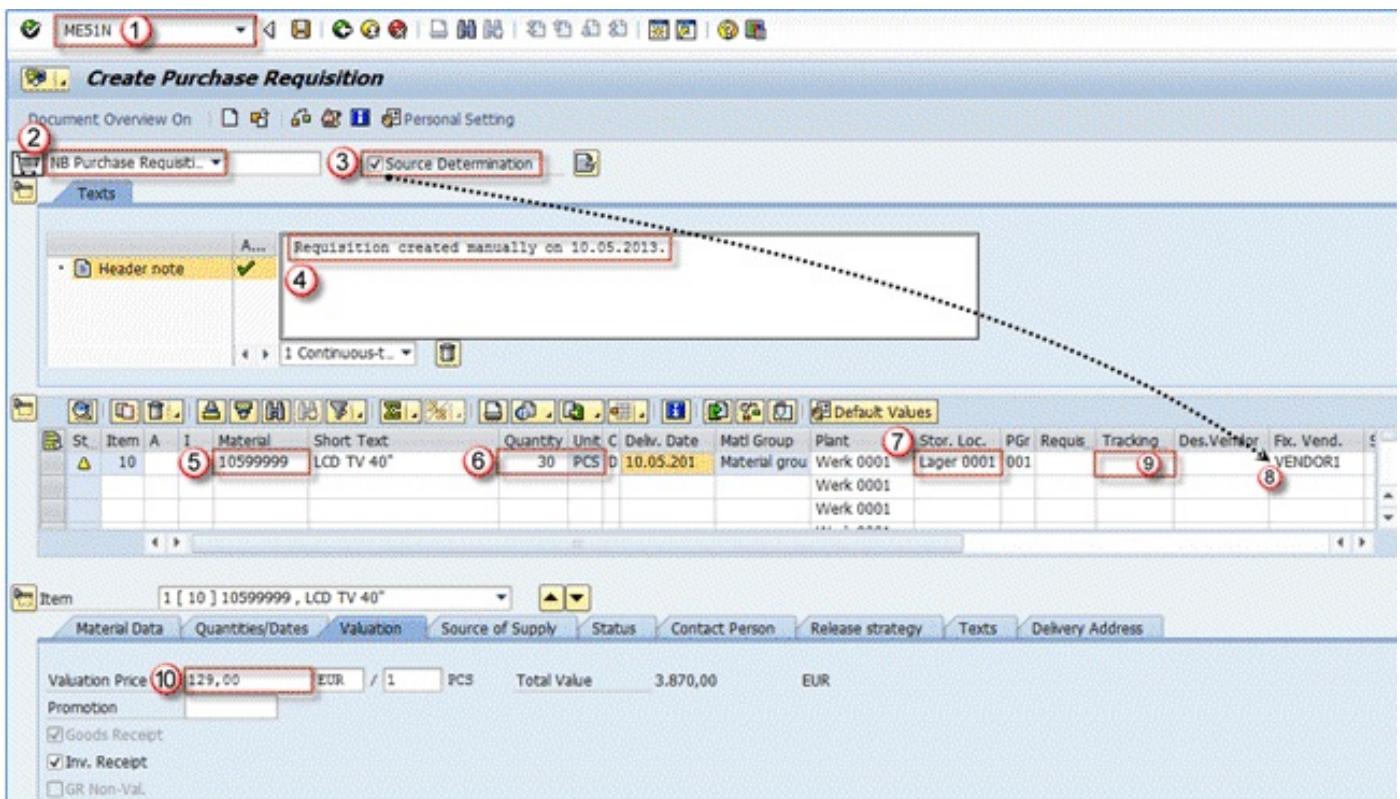
Conditions

Net Price	2.750,00	EUR	/	1	PAL	Valid to	31.12.9999
Effective Price	2.750,00	EUR	/	1	PAL	<input type="checkbox"/> No Cash Disc.	
Qty Conv.	1	PAL	<->	1	PAL	Cond. Grp	<input type="checkbox"/>
Pr. Date Cat.	<input type="checkbox"/>	No Control					
Incoterms	<input type="checkbox"/>						

How to create a purchase requisition

Purchase requisition creation can be done in t-code **ME51N** (or the older version ME51 – not recommended) and is a straight forward process.

1. Execute **ME51N** transaction.
2. **Purchase requisition document type:** NB – standard.
3. **Source determination:** ON or OFF.
4. **Header note.**
5. **Material:** material number.
6. **Quantity and UoM.**
7. **Storage location:** in which the material is stored.
8. **Vendor:** automatically determined by using source determination – field number **3**.



9. **Tracking number:** covered in previous topics, a desired value can be entered manually.
10. **Valuation price:** copied from material master data if maintained there, if not must be entered manually (if this field is not set as optional). After entering the desired information in the fields, we can save transaction data.



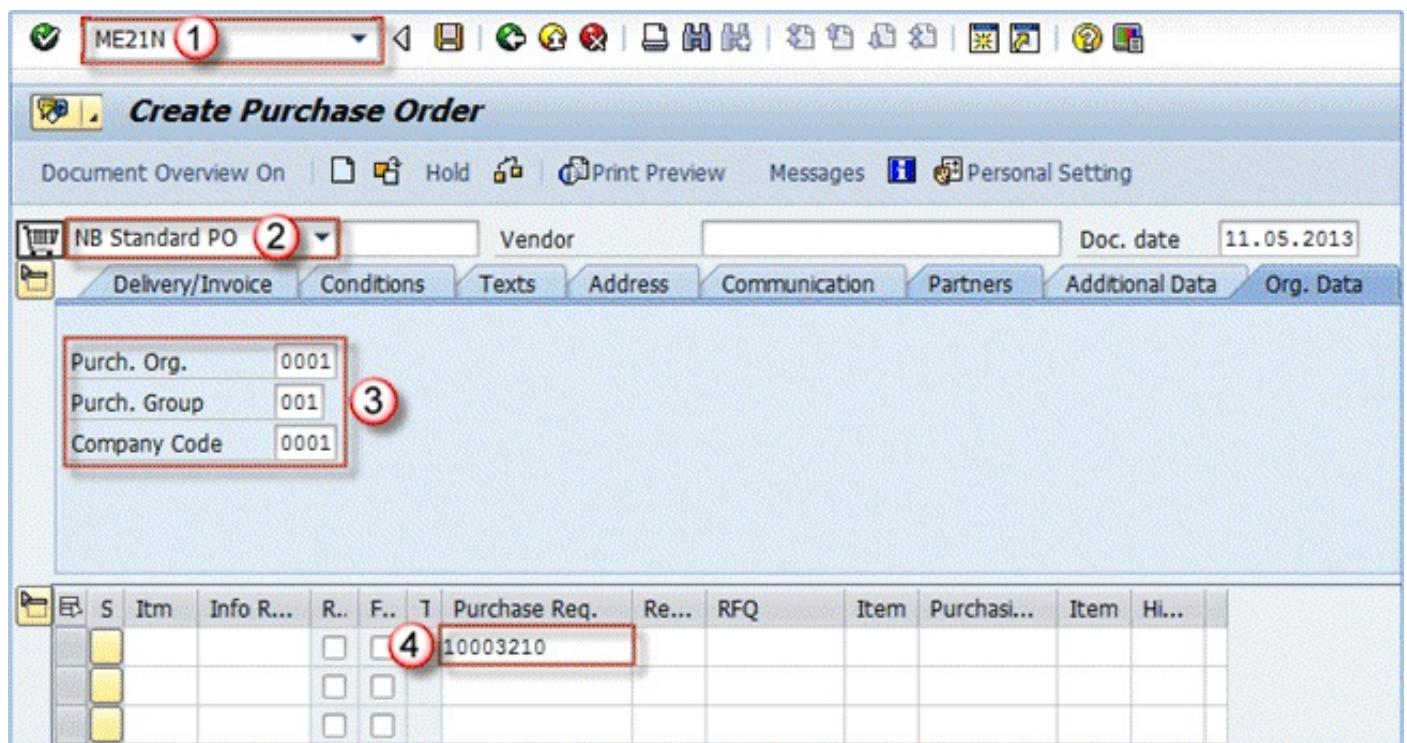
Purchase requisition number 0010003210 created

How to convert Purchase Requisition to Purchase Order

Upon release purchase requisitions can be converted into purchase orders. This can be accomplished in transaction code **ME21N**. Process for converting a PR into PO is straight forward, and the steps for performing it are as follows: **Step 1**

1. Execute transaction code **ME21N**.
2. Choose the appropriate purchase order type: in our case NB – standard PO.
3. Organizational levels: enter them according to needs.
4. Purchase requisition: enter the purchase requisition number released in the previous lesson.

Hit ENTER. You may have to hit ENTER quite a few times to go through several warning messages.



Step 2)

1. **PO quantity:** you can see that the PO quantity is rounded down to 2 PAL. That is because we have entered 30pcs on PR, and we have set our order unit to be PAL in our info record, so we have to order in pallets, and system rounds it down.
2. **Net price:** net price field is being populated from purchase info record.

NB Standard PO

Vendor VENDOR1 Vendor 1 Doc. date 11.05.2013

Header

S	Itm	A	I	Material	Short Text	PO Quantity	O.	Delv. Date	Net Price	Cu...	Per
10				10599999	LCD TV 40"	1	2 PAL	10.05.2013	2.800,00 EUR	1	EUR
											EUR
											EUR
											EUR
											EUR
											EUR
											EUR
											EUR

Item 1 [10] 10599999 , LCD TV 40"

Material Data Quantities/Weights Delivery Schedule Delivery Invoice Conditions Texts Delivery Address

S	Delivery ...	Sched. Qty	Time	Stat. Del...	GR Qty	Purchase...	Re...	N.	Open Quantity	S.
10.05.2013	2		10.05.2013			10003210	10			21
										0

Save the PO and you are finished with converting a purchase requisition into the purchase order.

Chapter 3: Quotations

Overview of Quotations How to create RFQ

Quotations

Quotations are requests for vendors to provide us information about their best prices, terms and conditions, schedule of deliveries and other information in order to select the best source for our procurement needs.

Below you can see the process flow for quotations in purchasing in SAP MM module.



Quotation process is started with creation of a request for quotation, and afterwards maintenance of the quotations to input all the information received from possible vendors. Then we want to compare the offers and select the best suitable one(s) rejecting the others. In SAP, there are several transaction used in the process.

How to create Request for quotation

First we need to create a request for quotation. RFQs can be created by transaction **ME41**. We can create a new RFQ from scratch, or create one referencing to an existing purchase requisition or outline agreement. If you want to create the RFQ using a reference document, you will just need to click the appropriate button and enter the referencing document number. In this case, we are creating a new RFQ with no reference document. **Step 1)** In transaction ME41 , enter:

1. **RFQ type:** quotation type (A - standard RFQ).
2. **Language key:** language to be used in a quotation (EN - English).
3. **RFQ data:** Todays date.
4. **Quotation deadline:** this date has to be before delivery date.
5. **RFQ number:** enter a number you want to assign to quotation (if you want it to be assigned internally leave this field blank).
6. **Purch. organization:** purchase organization (e.g. 0001).
7. **Purchasing group:** purchasing group (e.g. 001).

8. **Item category:** default is blank – standard item.
9. **Delivery date:** requested delivery date.
10. **Plant.**
11. **Storage location:** SLoc for goods receipt.
12. **Requirement tracking number.**

Create RFQ : Initial Screen

Reference to PReq Reference to Outline Agreement

RFQ Type	1 AN	RFQ
Language Key	2 EN	
RFQ Date	3 12.05.2013	
Quotation Deadline	4 15.05.2013	
RFQ	5	

Organizational Data

Purch. Organization	6 0001	Einkaufsorg. 0001
Purchasing Group	7 001	RM Ambalaza

Default Data for Items

Item Category	8	Standard
Delivery Date	9 T	20.05.2013
Plant	10 0001	Werk 0001
Storage Location	11 0001	Lager 0001
Material Group		
Req. Tracking Number	12 654321	

Press **ENTER**, and you will be located on header data screen.

Step 2)

1. **Validity range:** enter the range for the validity period. Other information such as **collective number**(collective management of multiple documents), **deadline** for bid submission, **closing a date** for applications and **binding period** for quotation.
2. **Collective number – Coll.no** is a very important field as you can later compare quotations based on this information, or find RFQs using this number.

3. You can enter the warranty date if applicable.
4. **Target value:** threshold value for warning a message during the creation of the contract release order.

Create RFQ : Header Data

RFQ Company Code Purchasing Group
 RFQ Type Purch. Organization
 Vendor

Administrative Fields

RFQ Date	<input type="text" value="12.05.2013"/>	Item Interval	<input type="text" value="10"/>	Coll. No. (2)	<input type="text" value="190123"/>
Language	<input type="text" value="EN"/>	Subitem Interv.	<input type="text" value="1"/>	QuotDdl	<input type="text" value="15.05.2013"/>
Validity Start (1)	<input type="text" value="12.05.2013"/>	Validity End	<input type="text" value="21.05.2013"/>	Apply By	<input type="text" value="15.05.2013"/>
		Warranty (3)	<input type="text" value="21.06.2013"/>	Bindg Per.	<input type="text" value="21.05.2013"/>

Terms of Delivery and Payment

(4)	Targ. Val.	<input type="text" value="12000"/>
------------	------------	------------------------------------

Reference Data

Your Reference	<input type="text"/>	Salesperson	<input type="text"/>
Our Reference	<input type="text"/>	Telephone	<input type="text"/>

You should inspect the toolbar to see which screens can be called by using the icons.



Step 3) Among the icons in the toolbar you will find “Vendor Address” button, where you can:

1. Choose the appropriate vendor. If it's one time vendor, after entering vendor number you need to specify vendor address.

Create RFQ : Vendor Address

Toolbar icons:

RFQ		Company Code	0001	Purch. Group	001
RFQ Date	12.05.2013	RFQ Type	AN	Purchasing Org.	0001
Vendor	1 VENDOR1				

Name

Title	Company
Name	Vendor 1

Search Terms

Search term 1/2	VENDOR	1
-----------------	--------	---

Street Address

Street/House number	Address	1
Postal Code/City	1234	Wien
Country	AT	Austria
Time zone	CET	

PO Box Address

PO Box	
Postal code	
Company postal code	

Step 4) In the toolbar, you will also find the overview button which calls the item overview screen.



Item overview screen is the place where you can enter item information, materials, quantities...

- 1. Material number:** insert materials to be procured.
- 2. RFQ quantity:** enter needed quantity and unit of measure. You can inspect more screens from toolbar and save the document.

Create RFQ : Item Overview

RFQ		RFQ Type	AN	RFQ Date	12.05.2013			
Vendor	VENDOR1	Vendor 1		QuotDdl	15.05.2013			
RFQ Items								
Item	Material	Short Text	RFQ Quantity	O.	Deliv. Date	Mat. Grp	P...	S...
10	10599999	LCD TV 40"	20	PAL	D 20.05.2013	100	0001	0001
20					D 20.05.2013		0001	0001



RFQ created under the number 6000000002

You can always go back to edit the request for quotation using the t-code **ME42** or display it's information using **ME43**. Repeat the above process to send the RFQ to all of the vendors from which you are requesting a quotation.

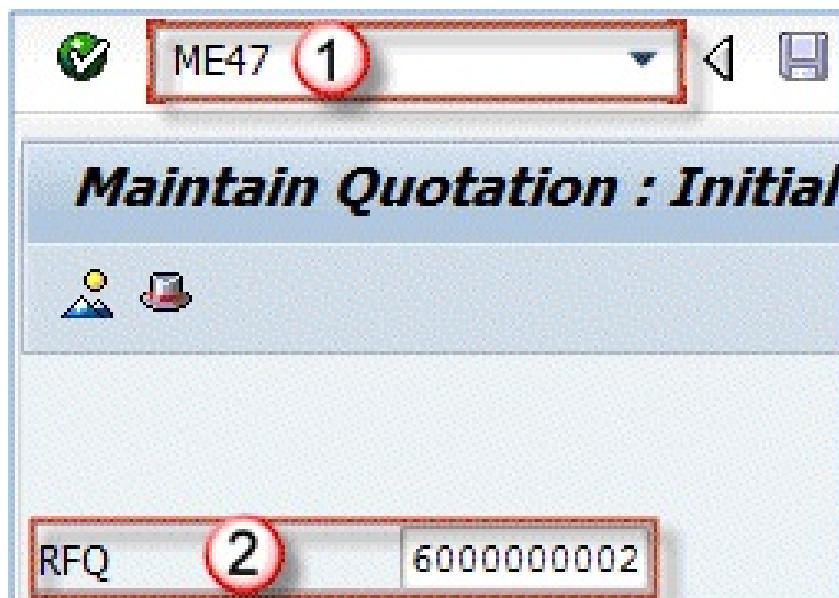
If you have maintained a collective number in your quotations (we have used 190123), you can review all of the quotations for the collective number by using transaction code **ME4N**.

How to Create Quotations

Using transaction code **ME47**, we can create a quotation based on a request for quotation.

Step 1)

1. Transaction code for quotation maintenance – **ME47**.
2. RFQ: request for quotation that we are using as a reference document.
3. Press **ENTER**.



Step 2)

1. RFQ quantity
2. Delivery date
3. Net price per unit of measure
4. Storage Location

Maintain Quotation : Item Overview																
RFQ		6000000002	RFQ Type	AN	RFQ Date		12.05.2013									
Vendor		VENDOR1	Vendor 1		QuotDdln		15.05.2013									
Quotation Items																
1	Item	Material	Short Text	RFQ Quantity	O.	Deliv. Date	Net Price	Per	O...	Mat. Grp	PInt	4	SLoc	D	R	T.
10	10599999	LCD TV 40"		20	PAL D	20.05.2013	1.280,00	1PAL	100	0001	0001					

5. Item details you will be presented the following screen. You may change details as per your requirements

Maintain Quotation : Item 00010

Item 6000000002 10 ItCat. Plant 0001
Material 10599999 Mat. Grp 100 Stor. Loc. 0001
Short Text LCD TV 40"

Quantity and Date

RFQ Quantity 20 PAL QuotDdln 15.05.2013
Delivery Date D 20.05.2013

Deadline Monitoring

1st Rem./Exped. 1- TrackingNo 654321
2nd Rem./Exped. 1 V. Mat. 79855899
3rd Rem./Exped. 7
No. Exped. 0

Quotation Data

Net Order Price 1.280,00 EUR / 1 PAL InfoUpdate
Qty Conv. 1 PAL <-> 1 PAL
Quot. Comment Tax Code
 Rej. Ind.

6. Additional data you can access some additional information on item level.

Maintain Quotation : Item 00010 Additional Data

Item 10 Item Cat.

Material 10599999 Matl Group 100 Plant 0001

Short Text LCD TV 40" Stor. Loc. 0001

<p>Administration</p> <p>Pl. Deliv. Time <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Revision Level <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Prior Vendor <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Season <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/> <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Kanban Indicat. <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>AT-Relevant <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Reason for Ord. <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p>	<p>Weights and Volumes for 1 Order Unit</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Net Weight</td> <td>295,812</td> <td style="width: 50%; text-align: right;">KG</td> </tr> <tr> <td>Gross Weight</td> <td>323,856</td> <td></td> </tr> <tr> <td>Volume</td> <td><input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></td> <td><input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></td> </tr> <tr> <td>Points</td> <td><input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></td> <td><input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></td> </tr> </table>	Net Weight	295,812	KG	Gross Weight	323,856		Volume	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>	Points	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>
Net Weight	295,812	KG											
Gross Weight	323,856												
Volume	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>											
Points	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>	<input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/>											

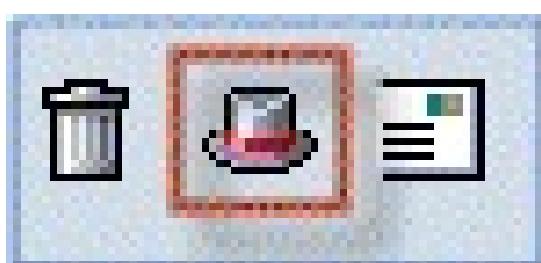
Conditions

<p>Condition Group <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Vendor Subrange <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Pr. Date Cat. <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/> No Control</p> <p>Incoterms <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="EXW"/> Wien</p>	<p><input type="checkbox"/> No Cash Disc.</p> <p>Promotion <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p>
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GR Control

<p>Rem. Shelf Life <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/> D</p> <p>Latest GR Date <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>QM Control Key <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p>	<p>Batch <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p> <p>Vendor Batch <input style="width: 20px; height: 20px; border: none; background-color: #e0e0e0;" type="button" value="..."/></p>
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7. If you want to change general header data click on the “Hat” icon.



Maintain Quotation : Header Data

RFQ 6000000002 Company Code 0001 Purchasing Group 001
 RFQ Type AN Purch. Organization 0001
 Vendor VENDOR1 Vendor 1

Administrative Fields

RFQ Date	12.05.2013	Item Interval	10	Coll. No.	190123
Language	EN	Subitem Interv.	1	QuotDdln	15.05.2013
Validity Start	12.05.2013	Validity End	21.05.2013	Apply By	15.05.2013
		Warranty	21.06.2013	Bindg Per.	21.05.2013

Terms of Delivery and Payment

Payment Terms		Currency	EUR	
Payment in	Days	Exch. Rate	1,00000	<input type="checkbox"/> Ex.Rate Fx
Payment in	Days	Incoterms		
Payment in	Days Net	Targ. Val.	12.000,00	

Reference Data

Quotation Date	Quotation
Your Reference	Salesperson
Our Reference	Telephone

- If you choose Item Conditions icon/button you can maintain pricing conditions for the currently selected item. Here, you can enter conditions like surcharge, freight cost, discount etc.

Change Gross Price Condition (PB00) : Condition Supplements



Variable key

Purchasing Doc.	Item	Description
6000000002	10	LCD TV 40"

Validity

Valid From 12.05.2013 Valid to 31.12.9999

Condition supplements

C...	Name	Amount	Unit	per	U.	Deleti...	Scales	Texts	
PB00	Gross Price	1.280,00	EUR		1 PAL		<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	
							<input type="checkbox"/>	<input type="checkbox"/>	



If you are done, you can save the data. If you need to change the quotation, you can do it by using the same t-code (**ME47**), or you can display it's data by using **ME48**.



Quotation for RFQ 6000000002 maintained

You can repeat the process to create quotations for all of the RFQs. If certain vendor didn't answer your request for quotation, then you will not create a quotation for the vendor.

How to compare price for different Quotations

After your quotations are entered, you can compare them to select the best available offer at this moment. We can compare the quotations in transaction code **ME49**.

We can select which quotations will be compared by using the collective number we addressed before to be an important field that is maintained on RFQ (or directly on the quotation).

If we forget to enter the collective number, we will have to supply all the quotation numbers in the selection field “Quotation”.

Step 1) In transaction **ME49**, Enter

1. **Purchasing organization** (e.g. 0001).
2. **Collective RFQ** (we have used 190123).
3. Execute the transaction.

The screenshot shows the SAP ME49 transaction interface. At the top, there's a toolbar with icons for search, refresh, and exit. Below it is a header bar labeled "Price Comparison List". The main area has several input fields and buttons:

- Purchasing Organization:** A dropdown menu with "0001" selected, circled with a red number 1.
- Quotation:** An empty dropdown menu.
- Collective RFQ:** A dropdown menu with "190123" selected, circled with a red number 2.
- Vendor:** An empty dropdown menu.
- Material:** An empty dropdown menu.
- Comparison Values:** A section with:
 - "Reference Quotation": An empty input field.
 - Mean Value Quotation
 - Minimum Value Quotation
 - "Percentage Basis": A dropdown menu with "1" selected.
 - "Max. No. Quotations per Page": A dropdown menu with "12" selected.
- Price Calculations:** A section with:
 - Include Discounts
 - Include Delivery Costs
 - Determine Effective Price

The comparison list looks like this:

Price Comparison List in Currency EUR

◀ ▶ ⏪ ⏩ Quotation ⏷ Material ⏷ Vendor Additional Info ⏷

Material Sh. Text Qty. in Base Unit	Quot.: Bidder: Coll. No. :	6000000002 VENDOR1 190123	6000000003 VENDOR2 190123
10599999 LCD TV 40" 240 PCS	Val.: Price: Rank:	25.600,00 106,67 1 100 %	25.800,00 107,50 2 100 %
Total Quot.	Val.: Rank:	25.600,00 1 100 %	25.800,00 2 100 %

From the list we can see that Vendor1 have proposed a better price.

What we need to do is check the **effective price** (with discounts, freight cost and other conditions). We will go back to the selection screen and we will tick three check boxes.

Step 2)

1. Check all the boxes in the Price Calculations section.
2. Execute the transaction.

Price Comparison List



Purchasing Organization	0001
Quotation	
Collective RFQ	190123
Vendor	
Material	

Comparison Values

Reference Quotation

Mean Value Quotation

Minimum Value Quotation

Percentage Basis

Max. No. Quotations per Page

12

Price Calculations

1

Include Discounts

Include Delivery Costs

Determine Effective Price

Our results have changed significantly.

Now Vendor2 has the better price, and price of Vendor1 has gone up 256 EUR because of freight cost.

Now we can conclude that our Vendor2 has the best price, and we can proceed with the process.

Material	Quot.:	6000000003	6000000002
Sh. Text	Bidder:	VENDOR2	VENDOR1
Qty. in Base Unit	Coll. No. :	190123	190123
10599999	Val.:	25.800,00	25.856,00
LCD TV 40"	Price:	107,50	107,73
240 PCS	Rank:	1 100 %	2 100 %
Total Quot.	Val.:	25.800,00	25.856,00
	Rank:	1 100 %	2 100 %

If you select Mean value quotation and Minimum value quotation on the previous screen, you will get the result as they are shown below on the screen.

1. Average price on all the quotations.
2. Minimum price for all the quotations.

Material	Quot.:	6000000003	6000000002	MEAN	1	MINIMUM	2
Sh. Text	Bidder:	VENDOR2	VENDOR1				
Qty. in Base Unit	Coll. No. :	190123	190123				
10599999	Val.:	25.800,00	25.856,00			25.828,00	25.800,00
LCD TV 40"	Price:	107,50	107,73			107,62	107,50
240 PCS	Rank:	1 100 %	2 100 %				
Total Quot.	Val.:	25.800,00	25.856,00			25.828,00	25.800,00
	Rank:	1 100 %	2 100 %				

After comparing the prices/conditions, you can decide which offers to accept and which ones to reject.

How to select or reject a Quotation

Step 1)

1. Select the quotation that's favourable (you want to process it further as it's having the best conditions).
2. Choose the Edit Quotation button on the toolbar.

Price Comparison List in Currency EUR			
Quotation Material Vendor Additional Info			
Material	Quot.:	6000000003	6000000002
Sh. Text	Bidder:	VENDOR2	VENDOR1
Qty. in Base Unit	Coll. No. :	190123	190123
10599999 LCD TV 40"	Val.:	25.800,00	25.856,00
240 PCS	Price:	107,50	107,73
	Rank:	1 100 %	2 100 %
Total Quot.	Val.:	25.800,00	25.856,00
	Rank:	1 100 %	2 100 %

Step 2) Now you are in the ME47 transaction. Here you can choose the item and go to the item details screen.

1. Select the item.
2. Click on the item details icon.

Maintain Quotation : Item Overview									
RFQ	6000000003	RFQ Type	AN		RFQ Date	13.05.2013			
Vendor	VENDOR2	Vendor2			QuotDdl	15.05.2013			
Quotation Items									
1	Item	Material	Short Text	RFQ Quantity	O.	Deliv. Date	Net Price	Per	O.
10	10599999	LCD TV 40"	20	PAL	D	21.05.2013	1.290,00		1 PAL

Step 3)

1. Enter (or choose from the list of available values) **B** or **C** for the **InfoUpdate** field in Quotation data section to update the info record. In

this field, you can also find rejection indicator used to reject the quotation item. We will use it to reject the other offer.

InfoUpdate field is used to update the info record in several ways:

- ‘ ‘ (blank) The info record is not updated.
- ‘A’ If an info record exists at plant level, it is updated. Otherwise an info record at purchasing organization level is updated.
- ‘B’ If plant conditions are allowed for the plant, an info record at plant level is updated.
- ‘C’ If plant conditions are not necessary for the plant, an info record at purchasing organization level is updated.

Maintain Quotation : Item 00010

Item	6000000003	10	ItCat.		Plant	0001
Material	10599999		Mat. Grp	100	Stor. Loc.	0001
Short Text	LCD TV 40"					
Quantity and Date						
RFQ Quantity	20	PAL	QuotDdln	15.05.2013		
Delivery Date	D	21.05.2013				
Deadline Monitoring						
1st Rem./Exped.			TrackingNo	654321		
2nd Rem./Exped.			V. Mat.			
3rd Rem./Exped.						
No. Exped.	0					
Quotation Data						
Net Order Price	1.290,00	EUR	/ 1	PAL	InfoUpdate	<input type="checkbox"/> 1
Qty Conv.	1	PAL <-> 1		PAL		
Quot. Comment					Tax Code	<input type="checkbox"/>
<input type="checkbox"/> Rej. Ind.						

2. Save the data.

Rejecting quotations

You should head back to the report screen. Once there, you can select the other

quotation (we want it to be rejected), and repeat the process until you are on the item details screen. You will not enter the information into InfoUpdate field but will tick the “Rej. Ind.” check box. By this, you are rejecting the quotation item.

Step 1)

1. Rejection indicator.

Maintain Quotation : Item 00010

The screenshot shows the SAP 'Maintain Quotation' interface for Item 00010. The 'Rej. Ind.' checkbox in the 'Quotation Data' section is checked and highlighted with a red circle containing the number '1'. Other fields include Net Order Price (1.280,00 EUR), Qty Conv. (1 PAL <-> 1 PAL), and various deadline and tracking information.

Item	6000000002	10	ItCat.	Plant	0001	
Material	10599999		Mat. Grp	100	Stor. Loc.	0001
Short Text	LCD TV 40"					

Quantity and Date

RFQ Quantity	20	PAL	QuotDdln	15.05.2013
Delivery Date	D 20.05.2013			

Deadline Monitoring

1st Rem./Exped.	1-	TrackingNo	654321
2nd Rem./Exped.	1	V. Mat.	79855899
3rd Rem./Exped.	7		
No. Exped.	0		

Quotation Data

Net Order Price	1.280,00	EUR	/ 1	PAL	InfoUpdate	<input type="checkbox"/>
Qty Conv.	1	PAL	<->	1	PAL	
Quot. Comment					Tax Code	<input type="checkbox"/>
<input checked="" type="checkbox"/> Rej. Ind.	1					

You will be prompted to print the rejection message for the items being rejected so you could inform the vendor of the status of his offer. You can repeat the process for all the vendors and items that are rejected. This now leaves us with one open quotation for the item.

Chapter 4: Purchase Order

How to Create a Source List

You can create a sourcelist in **ME05** transaction. A source list is a list of possible sources for a material. If a source list requirement exists for the material, you must create a source list to proceed with the ordering.

1. Execute t-code **ME05**.
2. Enter material, or material list/range.
3. Enter plant.
4. Untick the test run check box to perform the transaction instead of using the test mode.
5. Execute the transaction.

ME05 1

Generate Source List

5

Material 2 10599999 to []

Plant 3 0001 to []

Generate

All Records for Material/Plant

Excl. Outline Agreements

Outline Agreements Only

Control

Valid from 13.05.2013

Valid To 31.12.2999

MRP Indicator []

Add Planned Delivery Time

Existing Records

Do Not Change

Delete

Become Invalid

Test Run 4

Source List Generated

On the results screen select the appropriate line item and click on the save button. You have created a source list.

How to Create a Purchase Order

Purchase orders are used for a number of processes in procurement. They can be used for internal procurement (from one plant to another), external procurement of goods (direct consumption or stock) and services. It can also be used for subcontracting, third-party and consignment processes. Purchase order processing is shown in the following diagram. Purchase orders can be created with reference to a purchase requisition, RFQ, quotation, another purchase order, contract, sales order.

How to create a Purchase Order

Purchase orders are created by using standard transaction **ME21N** (or **ME21** – the old instance of the transaction).

Step 1)

1. Enter transaction code **ME21N**.
2. Enter vendor.
3. Enter material number that needs to be procured.
4. Enter the quantity and unit of measure (optional – system uses UoM from purchase info record).
5. Press **ENTER** to confirm the data entered.

The screenshot shows the SAP ME21N 'Create Purchase Order' interface. Step 1 is indicated by a red circle around the transaction code 'ME21N' in the title bar. Step 2 is indicated by a red circle around the 'Vendor' field containing 'VENDOR1 Vendor 1'. Step 3 is indicated by a red circle around the 'Material' field containing '10599999'. Step 4 is indicated by a red circle around the 'PO Quantity' field containing '10 PAL'.

Purchase order item is now populated with information from purchase info record and material master, in combination with the vendor master data. This can be seen on the next few screens.

Delivery date and net price are populated from information supplied in master data.

Create Purchase Order

Document Overview On	Hold	Print Preview	Messages	Personal Setting																																				
NB Standard PO	Vendor	VENDOR1 Vendor 1	Doc. date	13.05.2013																																				
<table border="1"> <tr> <th>Header</th> <th>S</th> <th>Itm</th> <th>A</th> <th>I</th> <th>Material</th> <th>Short Text</th> <th>PO Quantity</th> <th>O.</th> <th>Deliv. Date</th> <th>Net Price</th> <th>Cu...</th> </tr> <tr> <td></td> <td>10</td> <td></td> <td></td> <td></td> <td>10599999</td> <td>LCD TV 40"</td> <td>10 PAL</td> <td>D</td> <td>14.05.2013</td> <td>2.800,00 EUR</td> <td>EUR</td> </tr> <tr> <td></td> </tr> </table>					Header	S	Itm	A	I	Material	Short Text	PO Quantity	O.	Deliv. Date	Net Price	Cu...		10				10599999	LCD TV 40"	10 PAL	D	14.05.2013	2.800,00 EUR	EUR												
Header	S	Itm	A	I	Material	Short Text	PO Quantity	O.	Deliv. Date	Net Price	Cu...																													
	10				10599999	LCD TV 40"	10 PAL	D	14.05.2013	2.800,00 EUR	EUR																													

In below screenshot , Blocks **1** and **2** were populated from purchase info record, while **3** was populated from vendor master.

NB Standard PO	Vendor	VENDOR1 Vendor 1	Doc. date	13.05.2013																																																									
<table border="1"> <tr> <th>Header</th> <th>S</th> <th>Itm</th> <th>Matl Group</th> <th>Pint</th> <th>Stor. Loc...</th> <th>Batch</th> <th>Reqmnt No.</th> <th>Requisiti...</th> <th>IM Material</th> <th>Info Rec.</th> <th>R.</th> <th>F..</th> <th>T</th> <th>Purch</th> </tr> <tr> <td></td> <td>10</td> <td>Material gro...</td> <td>Werk 0001</td> <td>Lager 0001</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5300003500</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> </tr> </table>					Header	S	Itm	Matl Group	Pint	Stor. Loc...	Batch	Reqmnt No.	Requisiti...	IM Material	Info Rec.	R.	F..	T	Purch		10	Material gro...	Werk 0001	Lager 0001						5300003500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Header	S	Itm	Matl Group	Pint	Stor. Loc...	Batch	Reqmnt No.	Requisiti...	IM Material	Info Rec.	R.	F..	T	Purch																																															
	10	Material gro...	Werk 0001	Lager 0001						5300003500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																															
<input type="button" value="Default Values"/> <input type="button" value="Addl Planning"/>																																																													
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Default texts populated via purchase info record master data.

1. **Info record PO text** – text populated from info record master.
2. **Info record note** – populated from info record master.
3. Text in this field is the same as in our info recod.

Item	1 [10] 10599999 , LCD TV 40"	▲ ▼								
<input type="button" value="Material Data"/> <input type="button" value="Quantities/Weights"/> <input type="button" value="Delivery Schedule"/> <input type="button" value="Delivery"/> <input type="button" value="Invoice"/> <input type="button" value="Conditions"/> <input type="button" value="Texts"/> <input type="button" value="Delivery Address"/>										
<table border="1"> <tr> <td>Item Texts</td> <td>A...</td> <td>default PO text from info record</td> </tr> <tr> <td> <ul style="list-style-type: none"> 1 Info record PO text <input checked="" type="checkbox"/> 2 Info record note <input checked="" type="checkbox"/> </td> <td>3</td> </tr> <tr> <td colspan="2"> <input type="button" value="..."/> <input type="button" value="Continuous-t..."/> </td> <td> Text can be adopted from Info Rec (Purchase order text) </td> </tr> </table>			Item Texts	A...	default PO text from info record	<ul style="list-style-type: none"> 1 Info record PO text <input checked="" type="checkbox"/> 2 Info record note <input checked="" type="checkbox"/> 	3	<input type="button" value="..."/> <input type="button" value="Continuous-t..."/>		Text can be adopted from Info Rec (Purchase order text)
Item Texts	A...	default PO text from info record								
<ul style="list-style-type: none"> 1 Info record PO text <input checked="" type="checkbox"/> 2 Info record note <input checked="" type="checkbox"/> 	3									
<input type="button" value="..."/> <input type="button" value="Continuous-t..."/>		Text can be adopted from Info Rec (Purchase order text)								

Step 2

1. You can see that purchase order contains several tabs at header level. On the "Status" tab, you can find some information about the status of the purchase order.
2. In this block, you can find general status (Active) as well as purchase order confirmation (Not Yet Sent), Delivery status and Invoice status.
3. This is information about quantities and value, ordered qty and value, delivered qty and value, still to deliver qty and value, Invoiced qty and value, and finally downpayment information.

The screenshot shows the SAP Purchase Order header screen. The top navigation bar includes tabs: Delivery/Invoice (highlighted with a red circle 1), Conditions, Texts, Address, Communication, Partners, Additional Data, Import, Org. Data, and Status. Below the tabs, there's a status area with four icons: Active (red circle 2), Not Yet Sent, Not Delivered, and Not Invoiced. To the right, a table (circled with red circle 3) displays delivery and invoice details:

	Ordered	Delivered	Still to deliv.	Invoiced	Down paymts
10	PAL	28.000,00	EUR		
0	PAL	0,00	EUR		
10	PAL	28.000,00	EUR		
0	PAL	0,00	EUR		
					0,00 EUR

Other tabs contain information about Organizational Data, Import, Additional Data, Partners, Communication, Address, Texts, Conditions, Delivery/Invoice information.

Step 3)

Delivery/Invoice tab holds data about payment terms and trading terms. You can insert payment terms here (like =D06 – payment 30 days after delivery), trading terms (in two incoterms fields – for example EXW Wien).

The screenshot shows the SAP Purchase Order delivery/invoice tab. The top navigation bar includes tabs: Delivery/Invoice (highlighted with a red box), Conditions, Texts, Address, Communication, Partners, Additional Data, and Import. The main area contains fields for Payment Terms (set to OD06), Payment in days (30 days), Payment in days (empty), Payment in days net (empty), Incoterms (empty), Currency (EUR), Exchange Rate (1,00000), and checkboxes for Exch.Rate Fixed and GR Message.

Step 4)

Organizational data holds the information on the purchasing organization, purchasing group and company code. You could choose another purchasing group if you needed to.

Purch. Org.	0001	Einkaufsorg. 0001
Purch. Group	001	Purch. Group X
Company Code	0001	SAP A.G.

Other tabs

- In **Conditions** tab, you can find data about prices and conditions on header level.
- **Texts** tab is used to maintain header level texts.
- **Address** tab holds the vendor address data.
- In the **Additional Data** tab, you can find Collective number and VAT registration number of the vendor.

At the item level purchase order contains additional information on items

- On the **delivery schedule** tab, we can enter the desired delivery schedule and quantities that are to be delivered at a certain date.

Purchase Order Header Details											
Material Data		Quantities/Weights		Delivery Schedule		Delivery		Invoice		Conditions	
S.	Delivery ...	Sched. Qty	Time	Stat. Del...	GR Qty	Purchase...	Re...	N.	Open Quantity	S...	P
1	D 14.05.2013	10		14.05.2013					101		
									0		
									0		
									0		

- **Materialdata** tab contains information about vendor material number, batch, vendor batch, EAN code etc. Some of the data is populated from purchase info record.
- On the **delivery tab**, you can set delivery tolerance percentages (over and under delivery), set delivery status, delivery remainder settings and other information.
- **Invoice** tab holds information on invoice related data and a field “Tax” that should be filled if applicable (in our case the tax code is **V1** for both items).
- **Conditions** tab is used to specify conditions on item level.
- **Delivery address** – our company address, it can be changed if we want the material delivered elsewhere.

Material Data	Quantities/Weights	Delivery Schedule	Delivery	Invoice	Conditions	Texts	Delivery Address	Conf	
Title	Company			 Address details					
Name	Waldorf 1								
Street/House number	AAA	111							
District				Address					
Postal Code/City	11112	Waldorf							
Country	DE	Germany	Region		Vendor				
					<input type="checkbox"/> SC vend				

- **Confirmation** tab holds data specific for the item confirmation control and rejection indicator.

Item	1 [10] 10599999 , LCD TV 40"	 						
Material Data	Quantities/Weights	Delivery Schedule	Delivery	Invoice	Conditions	Texts	Delivery Address	Confirmations
Conf. Control	<input type="button" value="▼"/>	Order Ack.	<input type="checkbox"/> Acknowl.Reqd			<input type="checkbox"/> Rejection Ind.		

When all the data is double-checked for mistakes and entered accurately we can save the purchase order.

 Standard PO created under the number 4500018386

How to create Purchase Order with Reference

Purchase order with reference

Purchase orders can be created with reference to a purchase requisition, RFQ, quotation, another purchase order, contract, sales order etc. To reference a PO to a previous document you can use the appropriate function. You can create a PO referencing a previous document in 2 ways

1. Using ME58
2. Using ME21N

Referencing through ME58

In our case if we want to create a PO for a purchase requisition, we can use the transaction code **ME58**. I will demonstrate the process starting from ME58 as it calls the ME21N and you can see that actually we create a PO in ME21N anyway.

Step 1)

1. Enter t-code **ME58**.
2. Choose Vendor and purchasing organization and
3. Select document types.
4. Execute.



ME58

1



Ordering: Assigned Purchase Requisitions



Purchasing Group

Purchasing Organization

Vendor

Outline Agreement

Framework Order

Item Category

Plant

Supplying Plant

Delivery Date

Release Date

Scope of List

 Contracts Scheduling Agreements Entry Sheets

2

0001

vandor1

to



3

Cost Center

WBS Element

Order

Asset

Asset Subnumber

Network

Operation Number

Sales Order

Sales Order Item

to

to

to

to

to

to

to

to

to



Step 2)

1. Choose the line for your vendor.
2. Select process assignment.

Process Assignment	 Update Worklist	 PRqs Per Assgt	 All Requisitions
2			
POrg OTy. CoCd Outl.Agmt. ATy. Valid	from .. to	PRqs	Processing Note

Vendor	VENDOR1	Vendor 1
0001 NB	0001 W/o Outl. Agmt	1

Step 3) Make sure that on the next screen the selected order type is **NB** (or other appropriate type which you wish to use at this moment). Date, purchasing group and organization also need to be checked before clicking the check button.

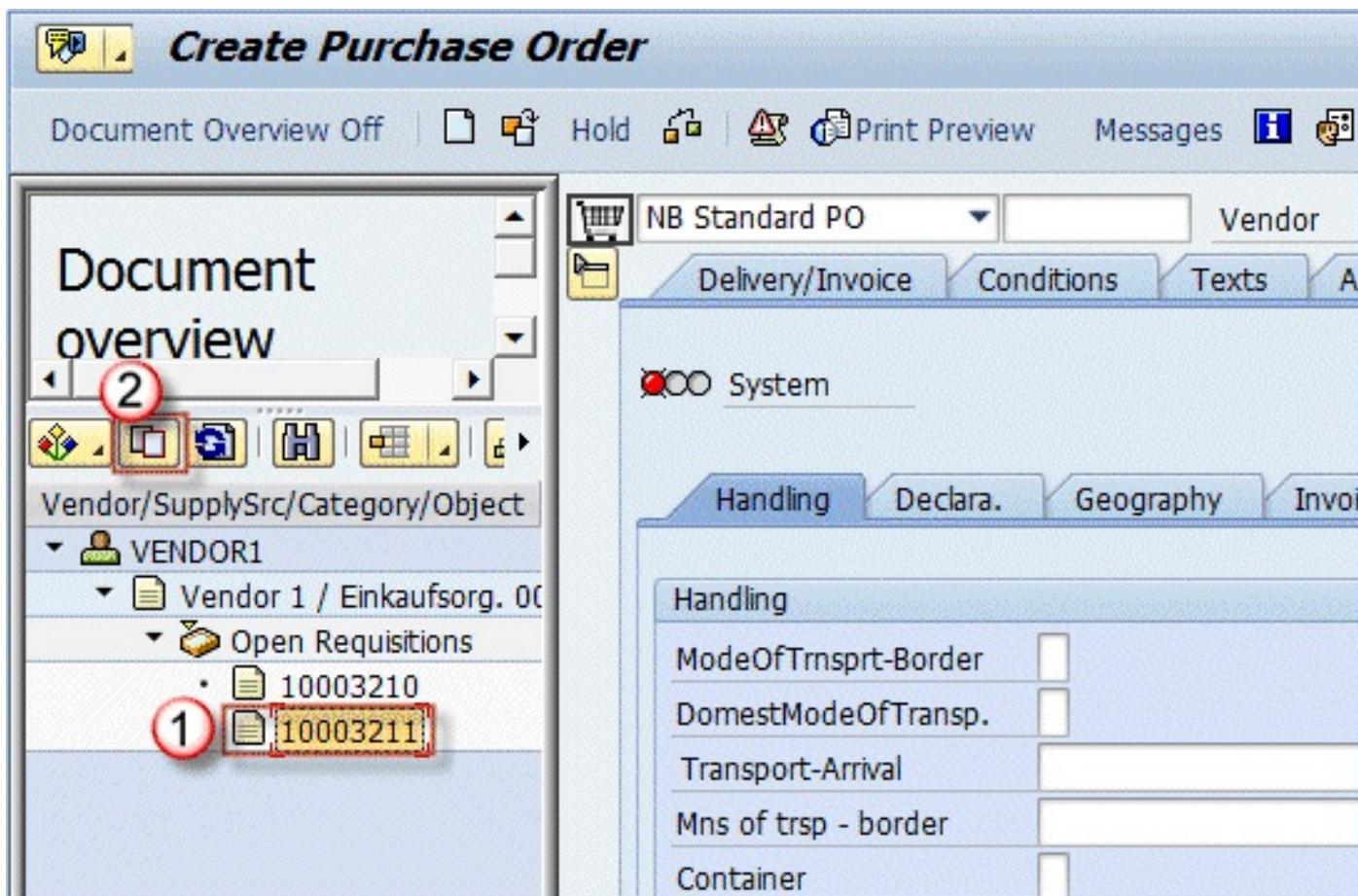
Process Assignment: Create PO

Order Type	NB
Purchase Order Date	14.05.2013
Purchase Order	
Purchasing Group	001
Purch. Organization	0001

1

Step 4) You will be redirected to the transaction **ME21N** by the system where you will be able to choose the requisition you want to use as a reference document for PO.

1. Choose PR number you want to use as a reference document.
2. Select the **Adopt** button.



Step 5) You can see that our item has been transferred to new purchase order. You can now save it, and it will be assigned a document number.

NB Standard PO		Vendor		VENDOR1 Vendor 1		Doc. date	14.05.2013						
Header													
	S	Itm	A	I	Material	Short Text	PO Quantity	O.	Delv. Date	Net Price	Cu...	Per	O.
	10				10599998	LCD TV 32"	0,083	PAL	D 14.05.2013	2.400,00	EUR	1	PAL
										EUR			EUR

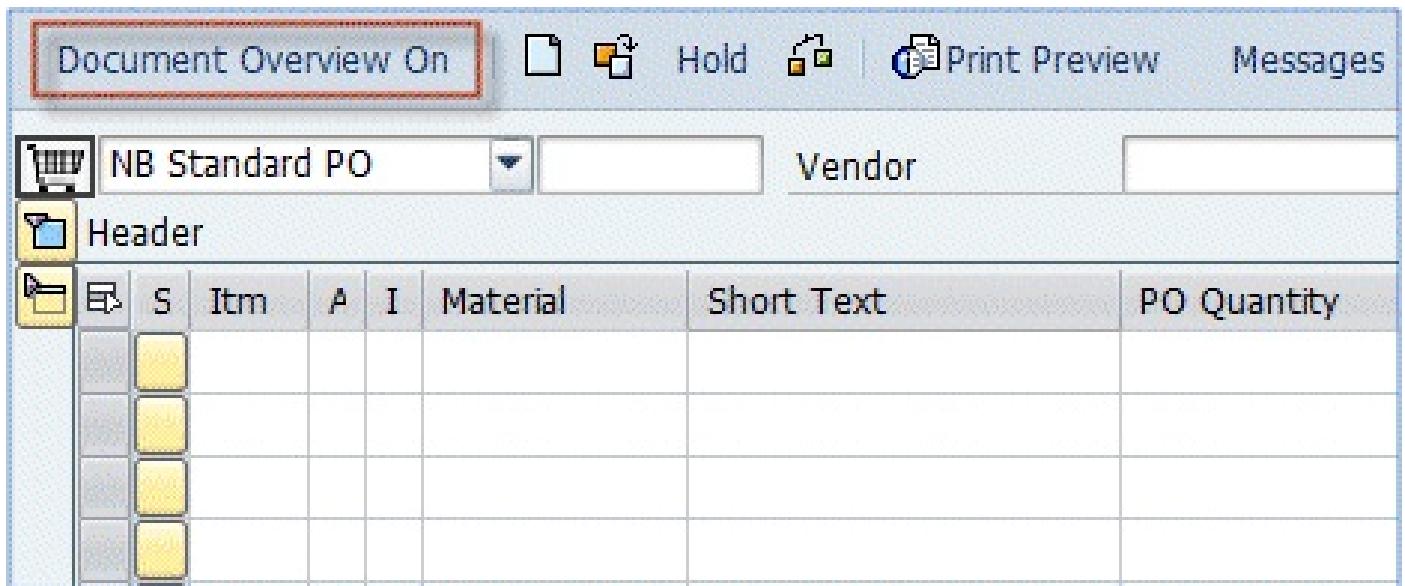
Buttons at the bottom include: Default Values, Addl Planning, and others.

Referencing through ME21N

Creating a PO directly from **ME21N** referencing to any suitable document is the fastest and least complicated way to do so. If you want to skip the ME58 or any other not needed step, you can create a PO using ME21N directly. This is mostly used by the MM users, and the process is as it is described below -

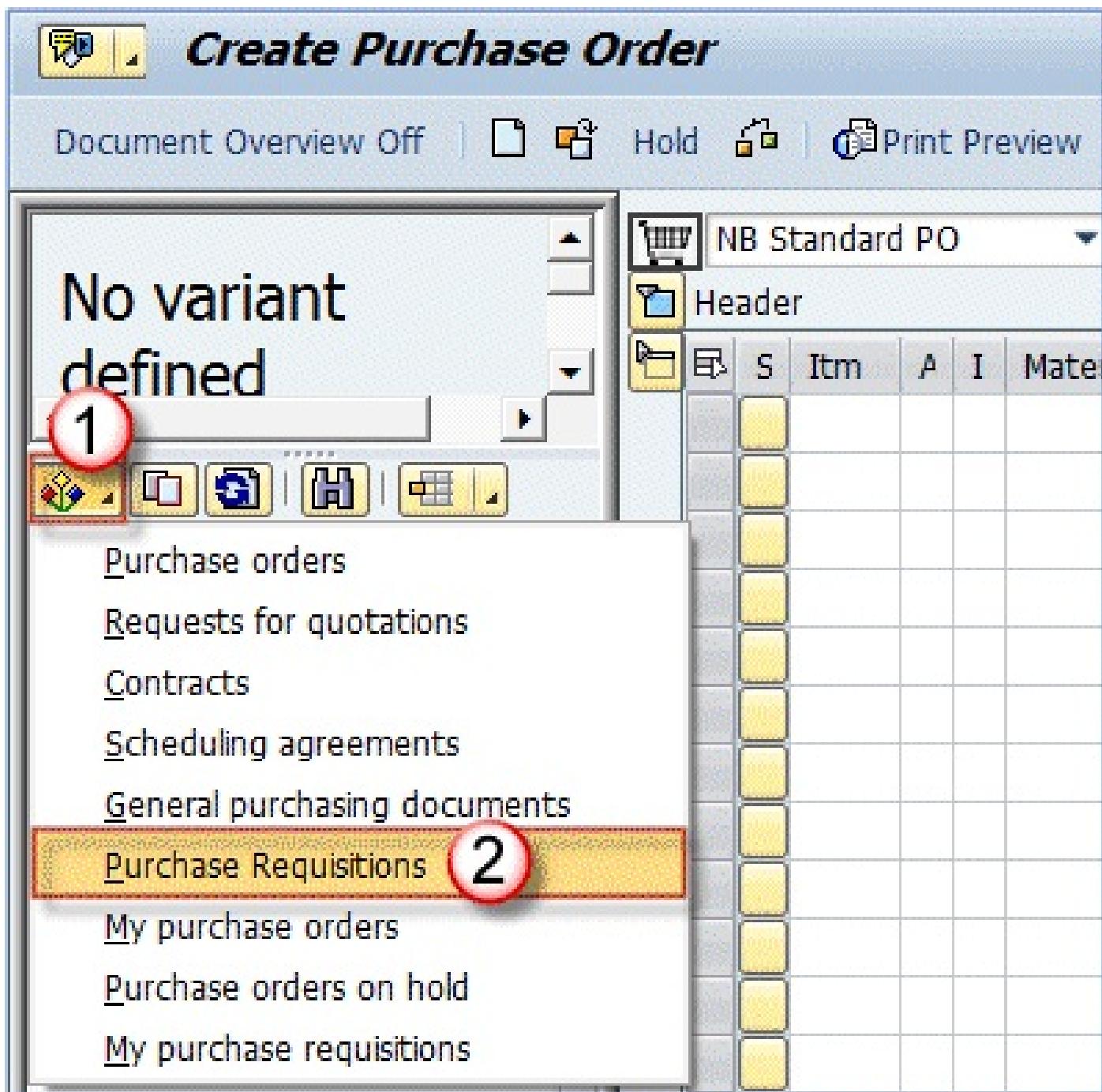
Step 1)

1. Enter the transaction **ME21N**.
2. Choose the “Document Overview ON” (if document overview isn’t open already).



Step 2) In the document overview screen, you can choose which document you will use for referencing purposes.

1. Choose the Selection Variant button.
2. Choose the document type for which you want to reference your PO.



Step 3)

On the selection screen enter your PR name (or find it by any other data – e.g. vendor, material number).

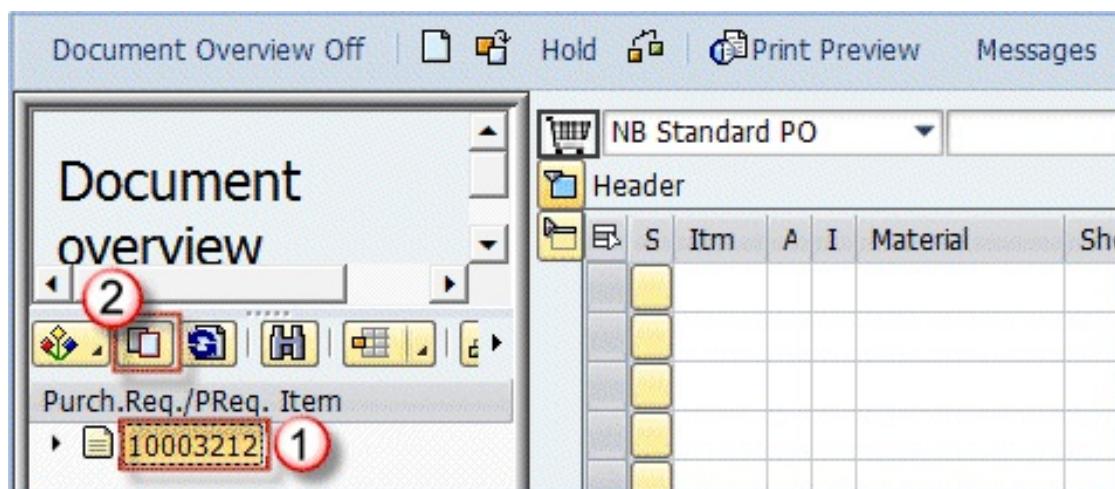
Execute the search.

The screenshot shows the SAP Fiori search interface. Under 'General selections', there is a field for 'Max. no. of hits' set to 5000, and three checkboxes: 'Open only', 'Released only', and 'Assigned, open, and released'. Under 'Program selections', various fields are shown with their corresponding 'to' fields and yellow arrow icons. The 'Purchase Requisition Number' field contains the value '10003212', which is highlighted with a red border.

Name of Requisitioner/Reques	to	<input type="button" value="▶"/>
Requisition (Request) Date	to	<input type="button" value="▶"/>
Purchase Requisition Number	to	<input type="button" value="▶"/>
Requirement Tracking Number	to	<input type="button" value="▶"/>
Item Number	to	<input type="button" value="▶"/>
Document Type	to	<input type="button" value="▶"/>
Purchasing Group	to	<input type="button" value="▶"/>
Purchasing Organization	to	<input type="button" value="▶"/>
MPN Material	to	<input type="button" value="▶"/>

Step 4) You are presented a screen with the documents relevant to your search.

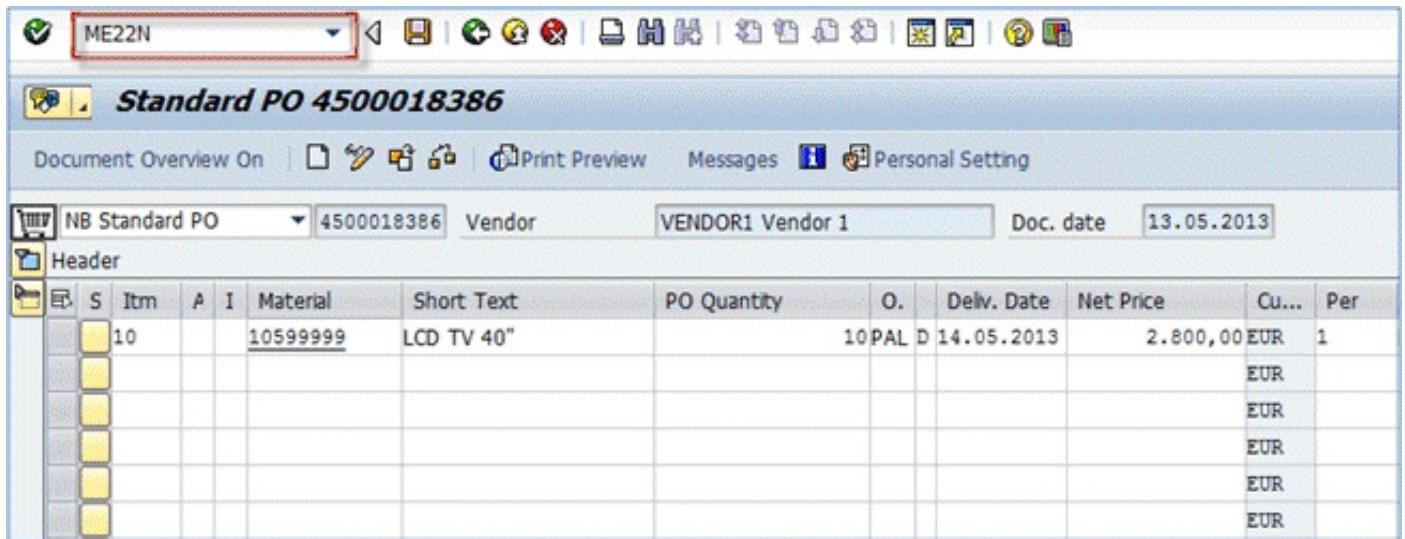
1. Click the document number you want to use as a reference document.
2. Choose to Adopt the document.



You are done, now you can save your PO or make additional changes. The referencing process is the same for any other reference document type. Just follow the steps above except choosing the appropriate document type in Step 2.

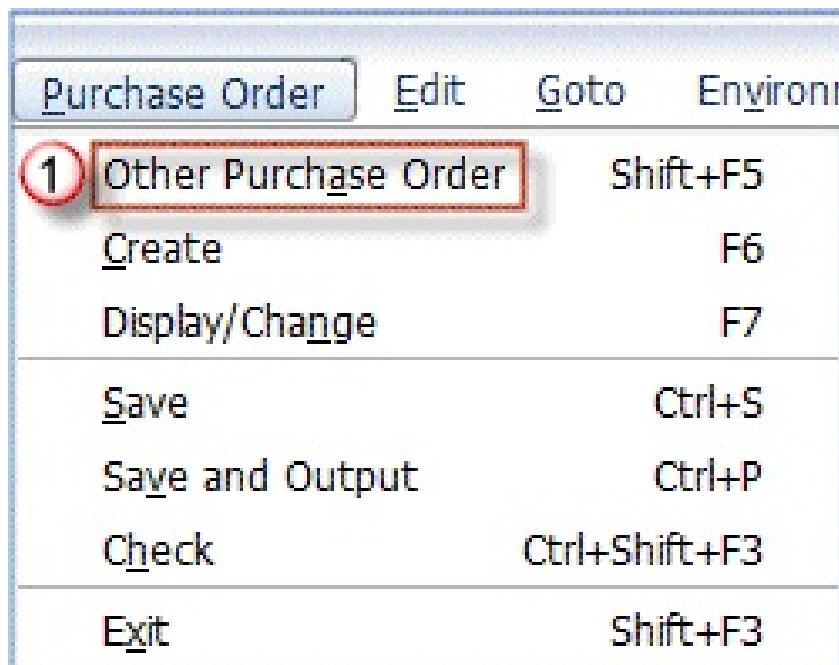
How to change a Purchase Order

Step 1) For changing an existing purchase order you can use transaction code **ME22N** (or **ME22** - the old version).



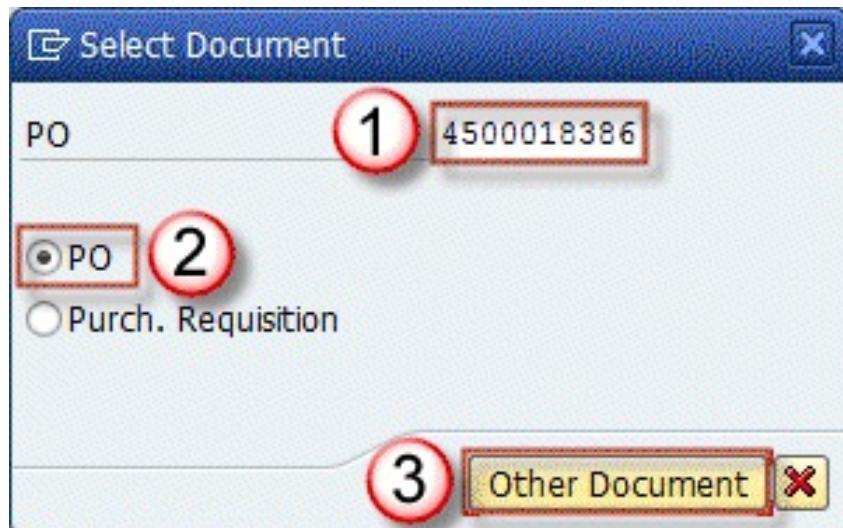
Immediately after executing transaction code, system will take you to the most recent purchase order you have created, changed or viewed. If you need to change some other purchase order, you can use the option which appears in the menu

Purchase order => Other Purchase Order.



Step 2)

You will be presented a screen to enter the document you want to process.



We can add another item and save our purchase order.

Document Overview On		Print Preview	Messages	Personal Setting		
NB Standard PO		4500018386	Vendor	VENDOR1 Vendor 1	Doc. date	13.05.2013
Header						
S	Itm	A	I	Material	Short Text	PO Quantity
10				10599999	LCD TV 40"	10 PAL D
20				10599998	LCD TV 32"	1 PAL D

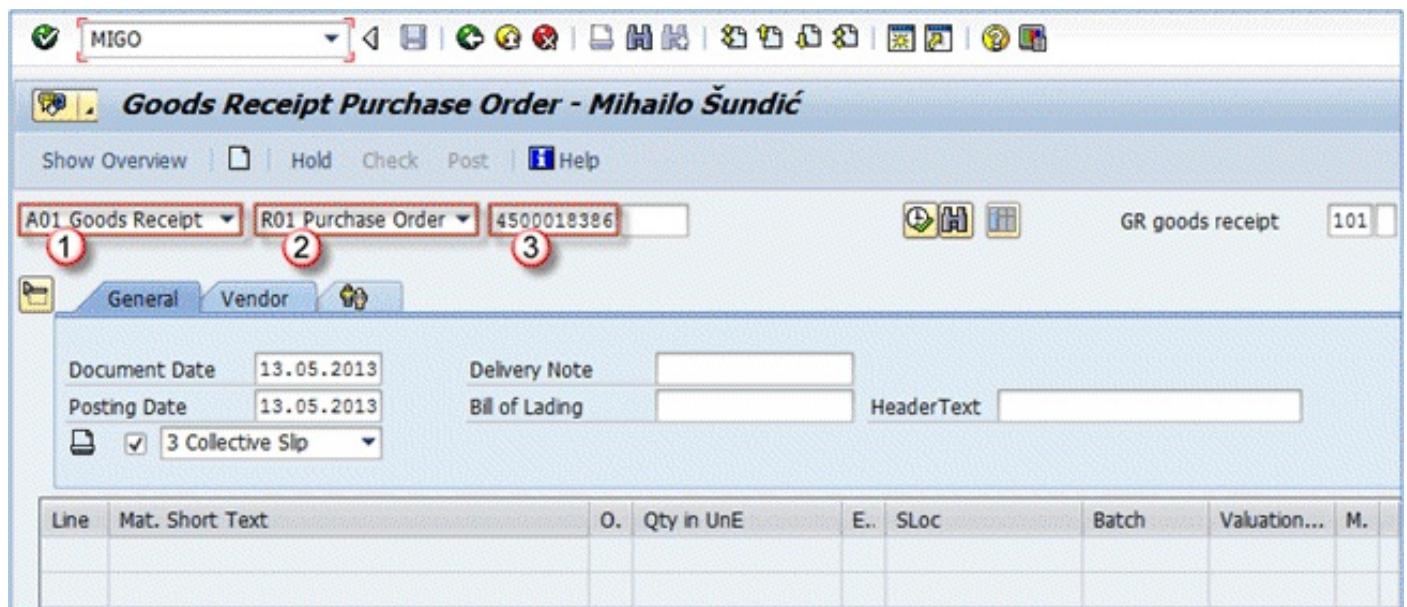
After saving we will be informed by the system that our PO is saved with changes.
Note: Displaying of purchase orders can be reached through t-code **ME23N** (or **ME23** – old version). Everything looks and works the same as in change mode except that data isn't changeable, you can only display it.

Chapter 5: Invoice

How to Post Goods receipt

Step 1) You can post the goods receipt for a purchase order using transaction code **MIGO**. Let's say we want to do a goods receipt for our purchase order 4500018386.

1. Choose **A01 - Goods Receipt**.
2. Choose **R01 - Purchase Order**.
3. Enter your purchase order number.
4. Press **ENTER**.



Step 2) You can see that items from the purchase order have been transferred to the screen.

1. Here you can enter document data, posting date and choose the appropriate printing message type.
2. If you look at the Stock Type for both items, you can see that the first item is posted to quality inspection, and the second is posted directly to Unrestricted stock so it can be used before quality check. This is the example of the influence of the material master data on further processing in MM module. This is due to the Purchasing view check box "Post to inspection stock", which is checked for LCD TV 40" but isn't checked for LCD TV 32".

Goods Receipt Purchase Order 4500018386

Show Overview | Hold | Check | Post | Help

A01 Goods Receipt | R01 Purchase Order | GR goods receipt | 101

General		Vendor	
Document Date	13.05.2013	Delivery Note	
Posting Date	13.05.2013	Vendor	Vendor 1
<input checked="" type="checkbox"/> 3 Collective Slip		HeaderText	
Line	Mat. Short Text	O.	Qty in UnE
1	LCD TV 40"	<input type="checkbox"/>	10
2	LCD TV 32"	<input type="checkbox"/>	1
		SAP-DUMMY	SAP-DUMMY
		101 + 2 Quality i... Werk 0001	101 + Unrestrict... Werk 0001
		Stock Type	Pint

Step 3) Now we can check if items are OK, and post the goods receipt (PGR).

1. These check boxes are used to confirm that items are OK, otherwise you won't be able to do a PGR.
2. After ticking the check boxes check if the document is ready for posting. If there are warnings or errors, system will show them in a pop-up screen. In our case, everything is ready for posting.
3. Post the document.

Show Overview | Hold | **Check** | **Post** | Help

A01 Goods Receipt | R01 Purchase Order

General		Vendor	
Document Date	13.05.2013	Delivery Note	
Posting Date	13.05.2013	Bill of Lading	
<input checked="" type="checkbox"/> 3 Collective Slip			
Line	Mat. Short Text	O.	Qty in UnE
1	LCD TV 40"	<input checked="" type="checkbox"/>	10
2	LCD TV 32"	<input checked="" type="checkbox"/>	1
		PAL	PAL

Document is saved and assigned a number.



Material document 5000023570 posted

How to perform Invoice Verification

Invoice verification is done via **MIRO** transaction.

Step 1)

1. Enter transaction code MIRO.
2. Choose invoice as a transaction type.
3. Enter the invoice date.
4. Enter the purchase order number.
5. Hit **ENTER**.

The screenshot shows the SAP MIRO transaction interface. Step 1 is indicated by a red circle around the transaction code 'MIRO' in the title bar. Step 2 is indicated by a red circle around the 'Invoice' selection in the 'Transaction' dropdown. Step 3 is indicated by a red circle around the 'Invoice date' field containing '13.05.2013'. Step 4 is indicated by a red circle around the purchase order number '4500018386' in the PO reference section. The interface includes a sidebar with vendor details for 'VENDOR1' and a main area for entering invoice information.

Step 2)

On Payment tab choose **R - invoice verification**.

Transaction 1 Invoice

Basic data Payment Details Tax Contacts Note

BaselineDt	13.05.2013	Payt Terms	OD06	30 Days	
Due on	12.06.2013			Days	
CashDiscnt		EUR		Days net	
Pmt Method		Pmnt Block	R Invoice verifica... ▾		
Inv.ref.					
Part. Bank		House Bank		/	

You can always check if the document has any problems.

1. Click **Messages** button.
2. Review the messages and fix the problems if there are any.

As it is shown on the below screen, I have a warning message that my price is too low, below tolerance limit. It is only a warning message, and it will not stop me from further processing. This message appeared as informational because I manually changed the item 1 price from 28.000 to 22.000! Err, just to show you the message.

Hide PO structure Show worklist Hold Simulate 1 Messages Help

Verification log - invoice / 2013

Type	Message text	L1xt	Item	Origin
⚠	Price too low (below tolerance limit of 10,23 EUR) 2	?	1	Amount check

When I correct the price back to 28.000 for item 1 my message will disappear. Note the amount entered is 30.4 = (28.000 for Item 1 + 2.400 for Item 2)

Transaction 1 Invoice Balance 0,00 EUR

Basic data

Invoice date	13.05.2013	Reference
Posting Date	14.05.2013	
Amount	30.400,00	EUR <input checked="" type="checkbox"/> Calculate tax
Tax Amount	0,00	V9 V9 (Taxable/tax-exempt)
Text		
Paymt terms	30 Days net	
Baseline Date	14.05.2013	
Company Code	0001 SAP A.G. Walldorf	

Vendor VENDOR1

Vendor 1
Address 1
A-1234 WIEN
AUSTRIA

PO reference G/L account Material

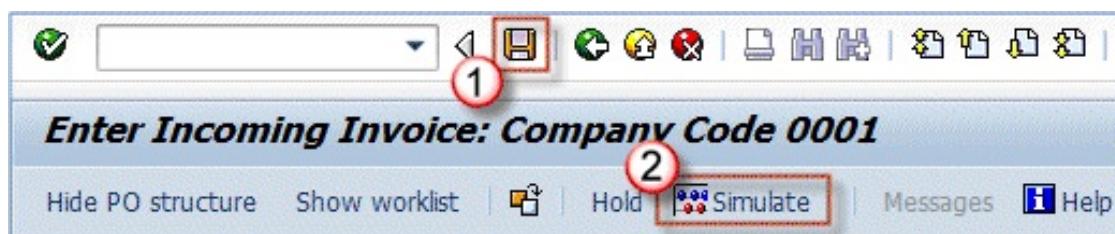
1 Purchase Order/Scheduling Agreement 4500018386

1 Goods/service items 7_6310 All information

Item	Amount	Quantity	O.	Purchase...	Item	Smart Number	PO Text	Tax Code	N.	A	Acct Asgnl
1	28.000,00	10 PAL	<input type="checkbox"/>	4500018386 10			LCD TV 40"	V9 V9 (Taxable/tax-exempt)	<input type="checkbox"/>		
2	2.400,00	1 PAL	<input type="checkbox"/>	4500018386 20			LCD TV 32"	V9 V9 (Taxable/tax-exempt)	<input type="checkbox"/>		

2 / 2 Items

We can simulate the invoice by clicking button number **Simulate**.



Simulation results are shown on the below screen.

Position	G/L	Act/Mat/Ast/Vndr	Smart Number	Amount	C...
1K 161000	Vendor 1 / A-1234 Wien			30.400,00-EUR	
2S 191100	GR/IR-clearing - external procureme...			28.000,00 EUR	
3S 191100	GR/IR-clearing - external procureme...			2.400,00 EUR	

Saving is successful.

Document no. 5105621692 created (Blocked for payment)

How to Release an Invoice

An invoice request is blocked for payment until its manually released. You can release the invoice by using t-code **MRBR**.

Step 1)

1. Execute t-code MRBR.
2. On the initial screen enter the company code and invoice number.
3. Check the release method (release manually if you want to process it in the second screen). This can be done choosing Automatically (please note the difference with automatic release in MIRO transaction being blocked and automatic release in t-code MRBR as those are two different things).
4. Our document has a manual payment block, so we will select that option. Execute.

MRBR 1

Release Blocked Invoices

Selection of Blocked Invoices

Company Code	0001	to	<input type="text"/>	
Invoice Document	5105621692	to	<input type="text"/>	
Fiscal Year		to	<input type="text"/>	
Vendor		to	<input type="text"/>	
Posting Date		to	<input type="text"/>	
Due Date		to	<input type="text"/>	
Purchasing Group		to	<input type="text"/>	
User		to	<input type="text"/>	

Processing

Release Manually 3 Release Automatically

Move Cash Disc. Date

Blocking Procedure

Blocked Due to Variances
 Manual Payment Block 4 Stochastically Blocked

Display options

Variant

Step 2)

1. Select the invoice you want to release.
2. Click on the flag icon - release.

Release Blocked Invoices

2

Sta...	Doc. No.	Year	Crcy	TranslDate	Exchange rate	L.cur	T	Posting Date	CoCd	Invoicing Pty	Name
1	5105621692	2013	EUR	14.05.2013	1,00000	RE	14.05.2013	0001	VENDOR1	Vendor 1	

You can see that now the invoice has Status field filled with green flag – it means, it is released to FI.

Sta...	Doc. No.	Year	Crcy	TranslDate	Exchange rate	L.cur	T	Posting Date	CoCd	Invoicing Pty	Name
5105621692	2013	EUR	14.05.2013	1,00000	RE	14.05.2013	0001	VENDOR1	Vendor 1		

Financial department should now be able to see the invoice ready for payment.

Service Purchase Order

Service purchase orders are entered for services that are procured internally or externally. These purchase orders are different from standard ones as they don't require a goods receipt since they have no stock. Other than that, there are a few small differences in PO creation. First is the document type for these orders. It should be FO – Framework Order. To procure a service directly for a cost center, we will follow the below procedure.

Step 1) Go to transaction ME21N.

1. Choose document type FO – Framework Order.
2. Choose vendor.
3. Choose validity start for PO.
4. Choose Account Assignment Category - K and Item Category – D.
5. Enter the description for the service.
6. Enter the quantity and unit of measure.
7. Enter the price for the service (e.g. 900 EUR per 1 AU – activity unit).

S	Itm	A	I	Material	Short Text	PO Quantity	O.	Delv. Date	Net Price	Cu...	Per	O.
	4	K	D		5 Consulting service	6 1 au		7 13.05.2013	900 EUR	1		au
									EUR			
									EUR			

Step 2) On item level, there are few fields you need to maintain in order to create a valid PO for service. On the “Services” tab, enter the information about your service, quantity and price.

Item		1 [10] Consulting service															
Services		Limits		Material Data		Quantities/Weights		Delivery Schedule		Delivery		Invoice		Conditions		Account	
Line	C	Service No.	Short Text		Quantity	U.	Gross Price	Crcy	Over								
10	<input type="checkbox"/>		Consulting service		1	AU	900	EUR									
20	<input type="checkbox"/>							EUR									
30	<input type="checkbox"/>							EUR									
40	<input type="checkbox"/>							EUR									
50	<input type="checkbox"/>							EUR									
60	<input type="checkbox"/>							EUR									
70	<input type="checkbox"/>							EUR									
80	<input type="checkbox"/>							EUR									
90	<input type="checkbox"/>							EUR									
100	<input type="checkbox"/>							EUR									

You might be prompted for Account assignment information.

Step 3) Here, you can enter the G/L account (it will be proposed in most cases), and cost center for service cost to be assigned.

1. G/L account.
2. Cost Center.

Account Assignment of Service in Line 10

G/L Account 1	400000	Company Code	0001
CO Area	0001		
Cost Center 2	SAP-DUMMY		
		3	<input checked="" type="checkbox"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/> <input type="checkbox"/> Rpt. AA on <input type="checkbox"/> Auto repeat AA <input type="checkbox"/>

Step 4) On the Limits tab, you can enter the limit for unplanned services. Expected value that services should not exceed.

Item 1 [10] Consulting service

Services Limits Material Data Quantities/Weights Delivery Schedule Delivery Inv

Overall Limit	1.500,00	EUR	<input type="checkbox"/> No limit
Expected value	900,00		
"Actual" Value	0,00		

Contract limits Other limit

Contract	Item	N	Limit	"Actual" Value	Short text
			<input type="checkbox"/>	0,00	
			<input type="checkbox"/>	0,00	

Step 5) Now choose the Delivery tab and uncheck the Goods Receipt check box. Services do not have goods receipt as they are not relevant for inventory management (they don't have stock).

Item 1 [10] Consulting service

Services Limits Material Data Quantities/Weights Delivery Schedule Delivery Invoice Conditions

Overdeliv. Tol.	<input type="text"/> %	<input checked="" type="checkbox"/> Unlimited	1st Rem./Exped. <input type="text"/>	<input type="checkbox"/> Goods Receipt
			2nd Rem./Exped. <input type="text"/>	<input type="checkbox"/> GR Non-Valuated
			3rd Rem./Exped. <input type="text"/>	
			No. Exped. <input type="text"/> 0	
			Pl. Deliv. Time <input type="text"/>	
			Latest GR Date <input type="text"/>	
QA Control Key <input type="text"/>			Incoterms <input type="text"/>	

Step 6) Account assignment tab shows the information we were asked to enter in pop-up window. If you are not asked to enter via pop-up you can enter information here.

Step 7) We don't need storage location for our item as it's not stock relevant.

You can save your changes and get the document number.



Change and display mode are accessed through the same transactions as for a standard purchase order, **ME22N** and **ME23N**.

All About Outline agreement

Outline agreement is a long-term purchase agreement between vendor and customer. Outline agreement are two types:

1. Contract
2. Scheduling Agreement

Contract The contract is draft agreement, and they do not include delivery dates for the material. Contract is two types :

1. **Quantity Contract:** This contract considered to fulfilled when the company supplied an agreed total quantity of materials against the contract.
2. **Value Contract:** This contract considered to fulfilled when the company supplied agreed total value of material against the contract.

Quantity Contract

Step-1

1. Enter T-code ME31K in the command field.
2. Enter Vendor / Agreement Type (MK- Quantity Contract) / Agreement Date.
3. Enter Purchase Org., Purchasing Group in organizational data.

Outline Agreement Edit Header Item Environme

1 ME31K

Create Contract : Initial Screen

Reference to PReq Reference to RFQ

Vendor	100233
Agreement Type	MK
Agreement Date	24.12.2012
Agreement	

Organizational Data

Purch. Organization	1000
Purchasing Group	100

Step-2 Enter Validity End date of contract in header data screen.

Create Contract : Header Data

Agreement	Company Code	1000	Purchasing Group	100
	Agreement Type	MK	Purch. Organization	1000
Vendor	100233	ALFA		

Administrative Fields

Agreement Date	24.12.2012	Item Number Interval	10	Subitem Interv.	1
Validity Start	24.12.2012	Validity End	23.01.2013	Language	EN

Step-3

- Enter Material ,Target quantity (A quantity for which quantity contract being created) and net price
- Click On Save Button.

Create Contract : Item Overview



Agreement [] Agreement Type MK Agmt Date 24.12.2012

Vendor 100233 ALFA Currency EUR

Outline Agreement Items

Item	I	A	Material	Short Text	Targ. Qty	O...	Net Price
10	F	M-01			15		4000
20							

A message as Quantity contract created under the number 4600000110 will be displayed.

2. Scheduling agreement The scheduling agreement is a long-term purchase agreement with the vendor in which a vendor is bound for supplying of material according to predetermined conditions. Details of the delivery date and quantity communicated to the vendor in the form of the delivery schedule.

Step-1

1. Enter T-code ME31 in command field.
2. Enter Vendor / Agreement Type (LP- Scheduling agreement) / Agreement Date.
3. Enter Purch. Organization / Purchasing group.

1 ME31

Create Outline Agreement : Initial S

Vendor	2 100233
Agreement Type	LP
Agreement Date	14.01.2013
Agreement	

3

Purch. Organization	1000
Purchasing Group	100

Step-2 Enter Validity End Date in header screen.

Create Scheduling Agreement : Header Data

Agreement	Company Code	1000	Purchasing Group
	Agreement Type	LP	Purch. Organization
Vendor	100233	ALFA	

Administrative Fields

Agreement Date	14.01.2013	Item Number Interval	10	Subitem Interv.
Validity Start	14.01.2013	Validity End	23.01.2013	Language

Step-3 Enter Material / Target Quantity / Net Price / Plant in Item Overview Screen.

Create Scheduling Agreement : Item Overview

<input type="button"/> AccountAssignments													
Agreement <input type="text"/> Agreement Type <input type="text"/> LP	Agmt Date <input type="text"/> 14.01.2013												
Vendor <input type="text"/> 100233 ALFA	Currency <input type="text"/> EUR												
Outline Agreement Items													
Item	I	A	Material	Short Text	Targ. Qty	O...	Net Price	Per	O...	Mat. Grp	PInt	SLoc	I
10			M-01		30		8000				1000		

Step-4 Enter Exclusion in next screen .

Excl.	Description
01	General exclusion for all declarations

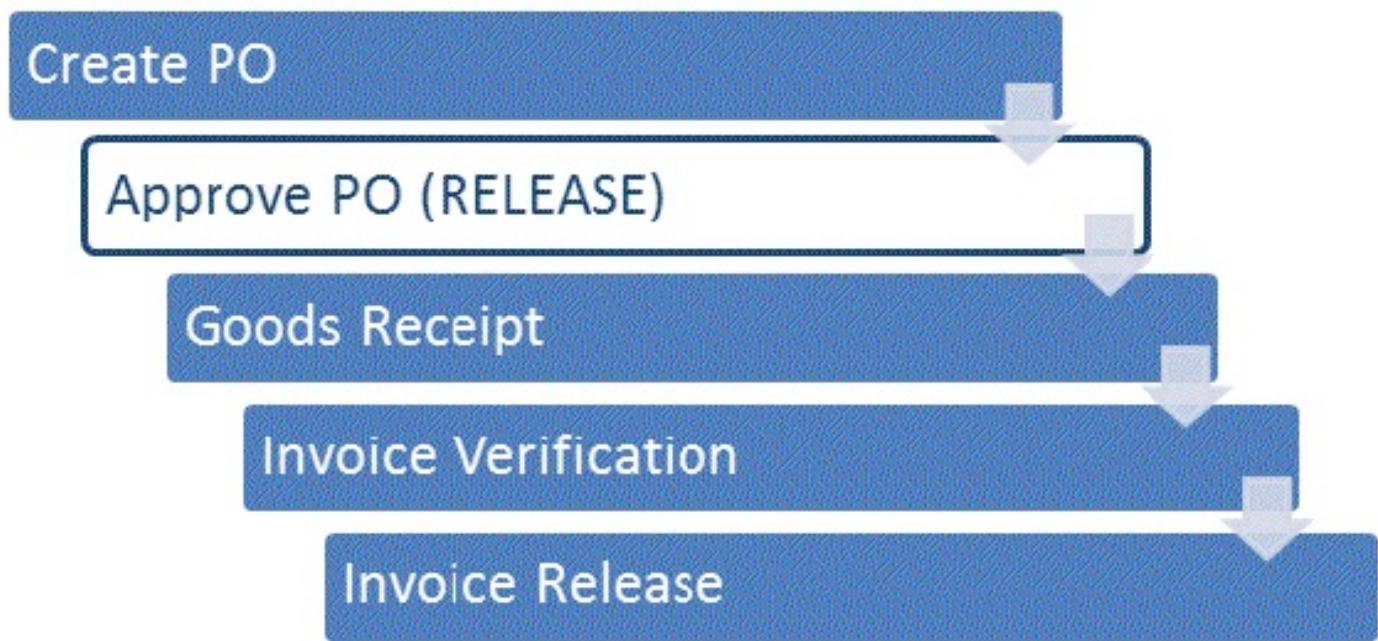
Step-5 Get back previous screen item overview and click on save button. A message as below -

Scheduling agreement created under the number 5500000135

Release procedures for purchasing documents

Releasing a purchasing document means approving it. For this, our MM consultant can create release procedures to be used. There is a vast number of options that can be used for controlling the release of the documents.

Important information to know is that a purchasing document cannot be changed after it is released. That means that only the final version should be released. Unreleased documents (RFQ – request for quotation, PO – purchase order, scheduling agreement, contract) cannot be processed further (convert RFQ to quotation, PO to goods receipt, invoice verification). Process flow:



Release strategy

We can have a lot of different strategies for different situations. For example, you can define a release strategy that is dependent on document type, you can define a release strategy based on the purchasing organization, purchasing group, or any other crucial information for a purchasing document.

In most of the cases, one of the most used release strategy is based on the value of the purchase document.

Defining a Release Strategy

Step 1) Lets define a release strategy such that will only request a manual release for purchasing documents with value greater than 100 Eur. For example if we have a PO of the value of 50 Eur, it will be autoreleased (will not require a release to be processed further). A purchase order for more than 100 Eur would require a

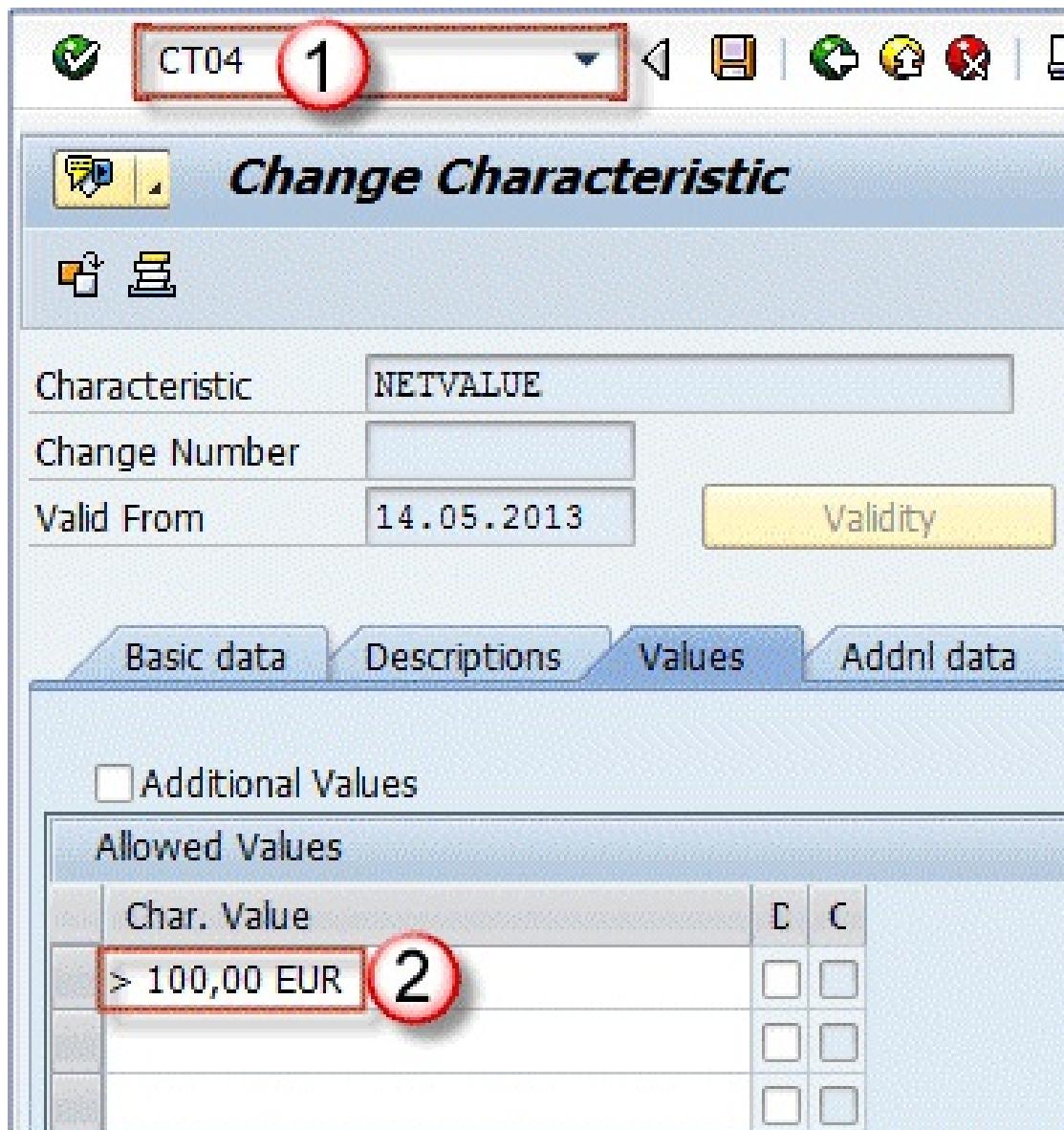
release.

For this, in the background, there needs to be specified a characteristic.

1. We can do this in **CT04** transaction.

NETVALUE characteristic is defined.

2. It's Value to be more than 100 Eur.



Step 2) Assigning fields to a characteristic on the additional data tab. We are assigning field CEKKO-GNETW to the characteristic, because that field is a purchase document value.

Characteristic	NETVALUE	    
Change Number		
Valid From	14.05.2013	Validity

Basic data Descriptions Values Addnl data Restrictions

Reference to Table Field

Table Name	CEKKO	Field Name	GNETW	 
------------	-------	------------	-------	---

Step 3) There also needs to be specified a class that holds the characteristic.

1. T-code to accomplish that is **CL02**.
2. For this class, we need to set a class name, class type,
3. Description and Status,
4. Validity period,
5. Same classification.

CL02 1

Change Class:

Change Language

Class REL_PUR (2)
Class type 032 Release Strategy

Change Number

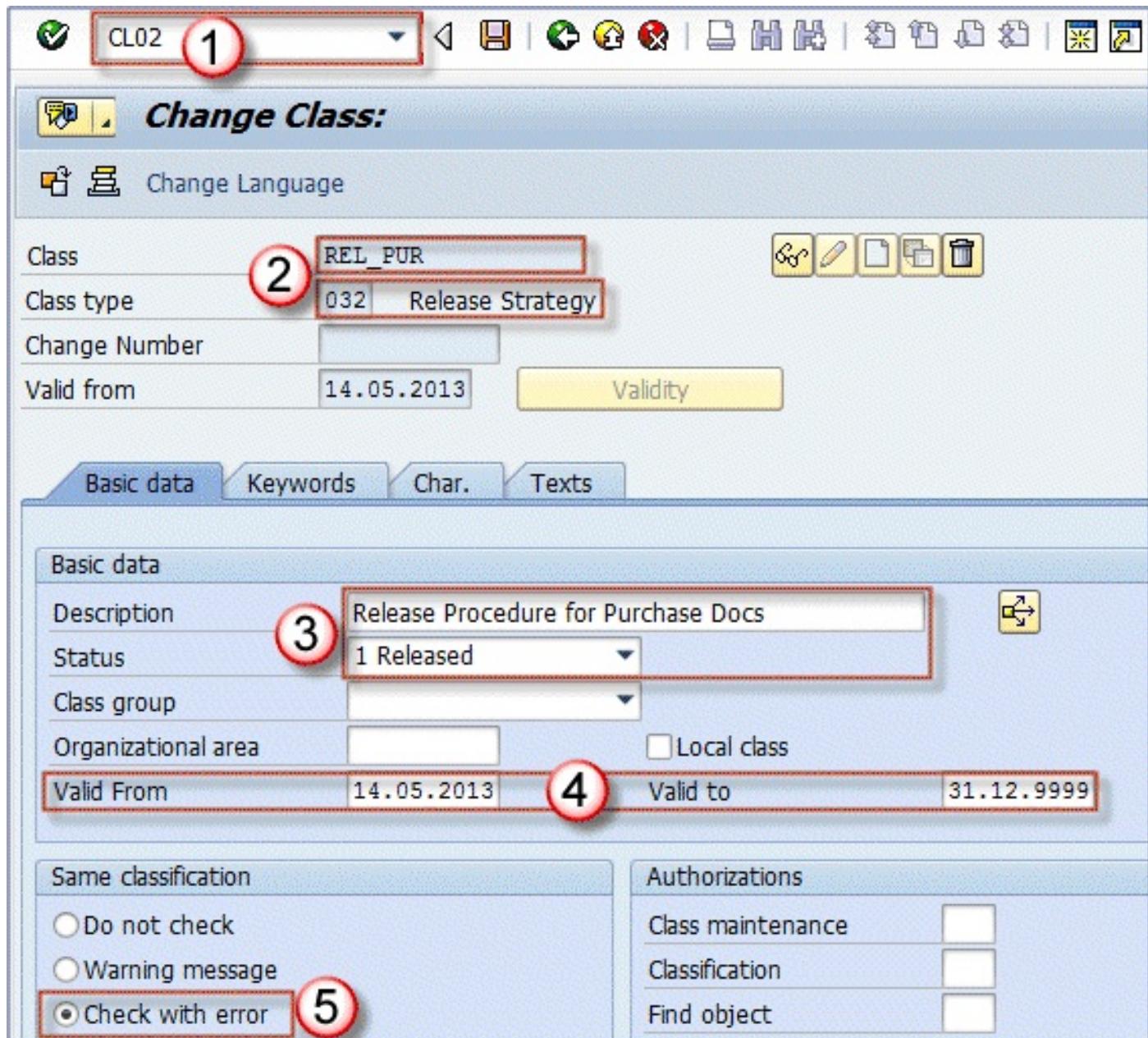
Valid from 14.05.2013 Validity

Basic data Keywords Char. Texts

Description Release Procedure for Purchase Docs (3)
Status 1 Released
Class group
Organizational area Local class
Valid From 14.05.2013 (4) Valid to 31.12.9999

Same classification
 Do not check
 Warning message
 Check with error (5)

Authorizations
Class maintenance
Classification
Find object



Step 4) Assigning a characteristic to a class. Afterwards, we can assign **NETVALUE** to a class called **REL_PUR**.

Class	REL_PUR																									
Class type	032	Release Strategy																								
Change Number																										
Valid from	14.05.2013	Validity																								
<input checked="" type="radio"/> Basic data <input type="radio"/> Keywords <input type="radio"/> Char. <input type="radio"/> Texts																										
<table border="1"> <thead> <tr> <th>Char.</th> <th>Description</th> <th>Da...</th> <th>N.</th> <th>D.</th> <th>Unit</th> <th>R</th> </tr> </thead> <tbody> <tr> <td>NETVALUE</td> <td>Total net order value</td> <td>CURR</td> <td>15</td> <td>2</td> <td>EUR</td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>						Char.	Description	Da...	N.	D.	Unit	R	NETVALUE	Total net order value	CURR	15	2	EUR	<input type="checkbox"/>							<input type="checkbox"/>
Char.	Description	Da...	N.	D.	Unit	R																				
NETVALUE	Total net order value	CURR	15	2	EUR	<input type="checkbox"/>																				
						<input type="checkbox"/>																				

Step 5) Following steps need to be done in customizing.

- Create release groups (you assign them a class – in our case REL_PUR).
- Create release codes (assigning them release groups).
- Create release indicators (e.g. 1-Blocked, 2-Released).
- Creating a release strategy.
- Assigning a release group and release code to a release strategy.
- Defining release statuses for the strategy (blocked and released).
- Maintaining classification (set a NETVALUE value for which the release strategy will apply – we can set this to >100, it means that all the purchasing documents with value bigger than 100 Eur will be subject to this release strategy).
- You can also perform a release strategy simulation to see if it works correctly (optional).

Afterwards, your strategy is set and ready for live system tryout.

Step 6) We can see that our purchase order is created to a value of more than 100 Eur. If we create a PO for less than 100 Eur, it will be autoreleased.

1. These two statuses mean that our PO is in release (it's subject to release process indicating that it should be approved before further processing can be possible). The other indicates the current status – **Blocked** means that it isn't released yet.
2. Value is 24,000 Eur, which is more than 100 Eur.

Delivery/Invoice		Conditions	Texts	Address	Communication	Partners	Additional Data	Import	Org. Data	Status
	In release	Ordered		20 PAL			24.000,00 EUR			
	Blocked	Delivered		0 PAL			0,00 EUR			
	Not Yet Sent	Still to deliv.		20 PAL			24.000,00 EUR			
	Not Delivered	Invoiced		0 PAL			0,00 EUR			
	Not Invoiced	Down paymts					0,00 EUR			

Now we have a purchase order that needs to be released (approved) to be valid for further processing.

Releasing purchase order

For the actual release of the purchasing document, we can use t-code **ME28**.

Step 1)

1. Execute the transaction code.
2. Enter release code (mandatory) and release group (optional).
3. Options – keep it as default like on the below screen.
4. You can choose the appropriate scope of the list and purchasing document category (if we only want to see the purchase orders available for release we will choose “F”).
5. Execute.

ME28 1

Release (Approve) Purchasing Documents

5

Release Code M1
Release Group M1

Set Release
 Cancel Release
 Release Prerequisite Fulfilled
 List with Items

Scope of List BEST
Purchasing Document Category F

Purchasing Organization
Document Number
Document Type
Purchasing Group
Vendor
Supplying Plant
Document Date

to []
to []

Step 2) On the next screen, we can see the purchase orders selected by our criteria.

1. Choose the purchase order you want to release by clicking on it.
2. Click on the release button.

Release Purchasing Documents with Release Code M1

Release Cancel Release Release Strat. Release + Save Print Preview

2

PO	Type	Vendor	Name	PGp	Order Date
Release Strategy			Release Indicator	Release Option	
4500018392	NB	VENDOR1	Vendor 1	1	001 14.05.2013
M1/M1 Rel.strat.			1 Blocked		Release possible

Status of the purchase order has changed to released.

PO	Type	Vendor	Name	PGp	Order Date
Release Strategy			Release Indicator	Release Option	
4500018392	NB	VENDOR1	Vendor 1	001	14.05.2013
M1/M1 Rel.strat.			2 Released	Release Set	

Step 3) You can see in the ME23N or ME22N transaction that our purchase order has altered statuses. “Release completed” and “Released” statuses are now shown in the PO header data.

NB Standard PO		4500018392	Vendor	VENDOR1	Vendor 1	Doc. date	14.05.2013		
		Delivery/Invoice	Conditions	Texts	Address	Communication	Partners	Additional Data	Import
<input checked="" type="checkbox"/>	Release completed	Ordered		20	PAL	24.000,00	EUR		
<input checked="" type="checkbox"/>	Released	Delivered		0	PAL	0,00	EUR		
<input type="checkbox"/>	Sent	Still to deliv.		20	PAL	24.000,00	EUR		
<input type="checkbox"/>	Not Delivered	Invoiced		0	PAL	0,00	EUR		
<input type="checkbox"/>	Not Invoiced	Down paymts				0,00	EUR		

Process flow is the same for all of the purchase documents (RFQ, PR, quotation etc).

Cancelling a release

Step 1) Purchasing document release has to be reversed in order for already released document to be changed.

- You can do that from the same transaction **ME28**.
- Choose the **Cancel release** check box and execute the transaction.

Release (Approve) Purchasing Documents

Release Code	M1			
Release Group		to		
<input checked="" type="checkbox"/> Set Release				
<input checked="" type="checkbox"/> Cancel Release				
<input checked="" type="checkbox"/> Release Prerequisite Fulfilled				
<input type="checkbox"/> List with Items				
Scope of List	BEST			
Purchasing Document Category	F	to		
Purchasing Organization		to		
Document Number		to		
Document Type		to		
Purchasing Group		to		
Vendor		to		
Supplying Plant		to		
Document Date		to		

Step 2) You will see the list of purchase documents available for release cancellation.

1. Choose the appropriate document.
2. Click on the Cancel release button.
3. Save and you are done.

Release Purchasing Documents with Release Code M1					
Release		Cancel Release		Release Strat.	
PO	Type	Vendor	Name	PGp	Order Date
Release Strategy			Release Indicator		Release Option
4500018392 NB	VENDOR1		Vendor 1	001	14.05.2013
M1/M1 Rel.strat.			2 Released	Release already effected	

Cancelling a release isn't possible if your release strategy doesn't allow the release to be reversed. This is a setting maintained on the release indicator and release strategy level.

You can test a release strategy used by the purchasing document by clicking the “Release Strategy” button on the above screen. You can also simulate the strategy output with Simulate release button.

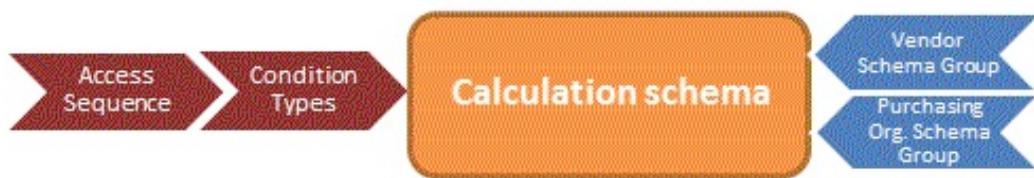
Release Strategy Purchase Ord 4500018392

Release group	M1	Release pur.doc.
Release Strategy	M1	Rel.strat.
Release code	M1	Release code M1
Release codes		
Rel. Prerequisite		
Releases to Date	M1	
Final release	M1	
Release ID	2	Released
Release already effected		
<input checked="" type="checkbox"/>	Simulate release	<input type="button" value="X"/>

Chapter 6: Pricing

Overview of Pricing Procedure

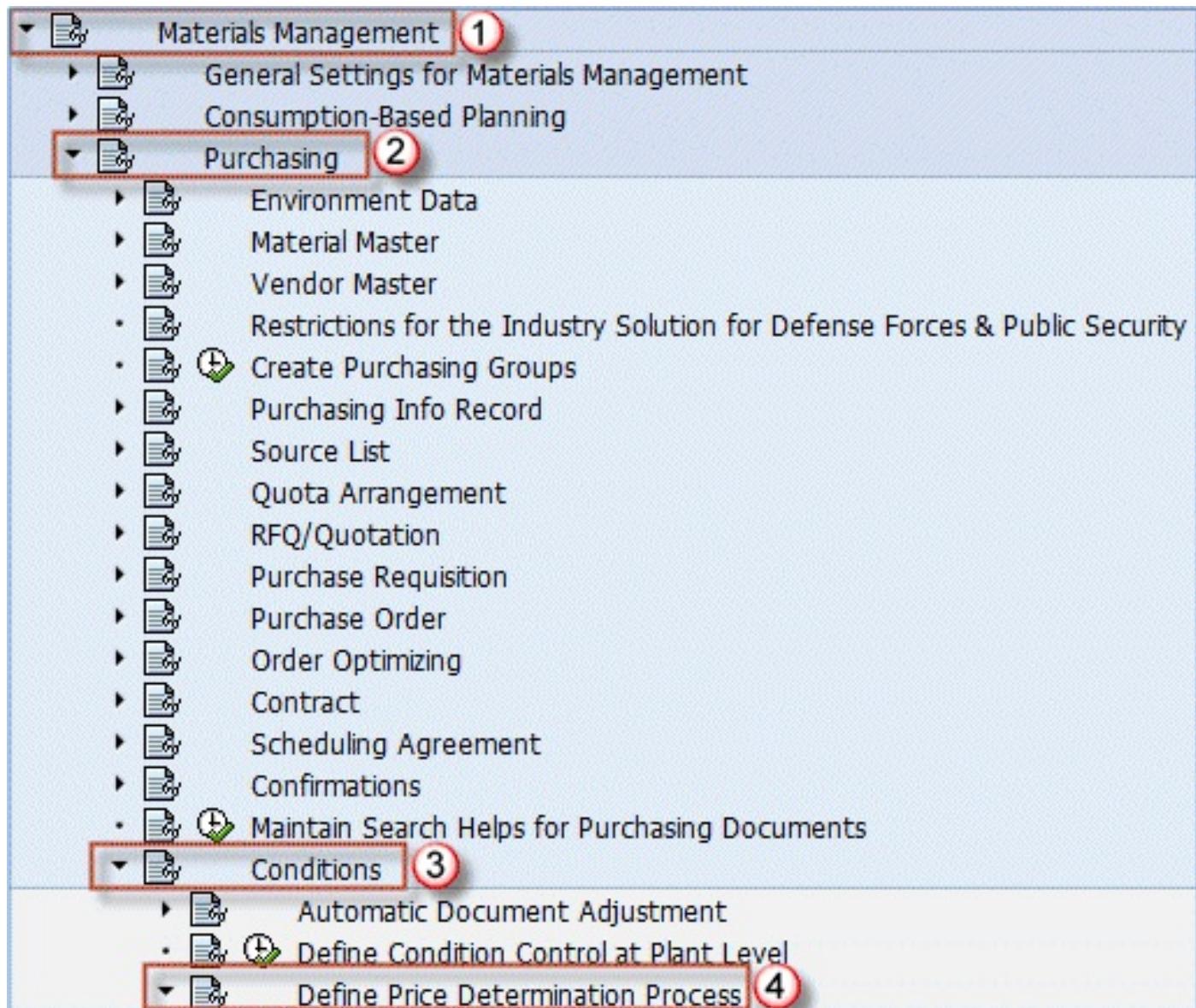
Pricing procedure in MM module is a way to determine prices in purchasing documents. It give us functionality to assign different calculation types for different needs. Defining a pricing procedure can be done by creating an access sequence, and assigning it to condition types. Access sequence tells the system where to look for the condition values. It can search multiple condition tables based on our settings. Tables have different priority, and different key fields. Determination of the pricing procedure is practically assigning the calculation schema to a combination of vendor schema group and purchasing organization schema group. So, you need to enter the vendor schema group on vendor master, and assign schema group to purchasing organization, in order for the system to find the calculation schema to be used in the document.



In order to setup a pricing procedure in purchasing documents, you need access to the customizing features.

IMG path to the available functions:

Transaction SPRO => Materials Management => Purchasing => Conditions => Define Price determ.process



Following functions can be used to maintain the pricing procedure. There are more settings concerning the pricing procedure, but we will cover the most used ones.

- * Define Access Sequences
- * Define Condition Types
- * Define Limits
- * Define Exclusion Indicators
- * Define Calculation Schema
- * Define Schema Group
- * Define Schema Determination

How to Define Access Sequence & Condition Table

Define Access Sequence

To define and maintain access sequences, you need to follow a few simple steps.

Step 1) Go to SPRO > Materials management > Purchasing> Conditions> Define price determination process> Define access sequences.

As shown below , you will find a dialog structure of **Access sequences, Accesses and Fields**.

1. Choose the Access sequence you want to maintain (**PB01** gross price).
2. Double click the **Accesses** folder in the dialog structure.

AS	Description	T.	Description
KB01	Header discounts		Access sequence relevant for pricing
LF01	Vendor		Access sequence relevant for pricing
LF02	Vendor Sub-range		Access sequence relevant for pricing
MART	Reset Material Type		Access sequence relevant for pricing
MP01	Market Price		Access sequence relevant for pricing
MNST	Input tax		Access sequence relevant for pricing
PB01	Gross Price		Access sequence relevant for pricing
PB02	Gross Price		Access sequence relevant for pricing
REEM	Bill-to party discounts		Access sequence relevant for pricing
REST	Invoicing Party Discount		Access sequence relevant for pricing
TRIG	Trigger Access Sequences		Access sequence relevant for pricing
VKP0	Duty Price of Dlv. Plant		Access sequence relevant for pricing
VKNG	Planned markup for dlv. plant		Access sequence relevant for pricing
WB2B	Trading Contract (WB2B)		Access sequence relevant for pricing
WBTC	Trading Contract (WBTC)		Access sequence relevant for pricing
WBC1	Trading Contract (WBC1)		Access sequence relevant for pricing

Step 2) In the next step you define access methods for the access sequence. You can see that several access methods are present for one sequence.

Every one of them is exclusive. It means that if a record is found in first access (Contract item), meaning that if the system finds a condition available from the Contract item, it will not search further, and that value will be used. If not, system

will follow the other accesses in order to find appropriate entry.

You can also set a requirement for an access method to be used. For example, there is a requirement 35 assigned to access **10**, which uses condition table **17** - Material Info Record (Plant-Specific).

Change View "Accesses": Overview					
Access sequence PB01 Gross Price					
Overview Accesses					
No.	T.	Description	Requirement	Exclusive	
5	16	Contract Item		<input checked="" type="checkbox"/>	
10	17	Material Info Record (Plant-Specific)	35	<input checked="" type="checkbox"/>	
20	18	Material Info Record		<input checked="" type="checkbox"/>	
30	25	Info Record for Non-Stock Item (Plant-Specific)	38	<input checked="" type="checkbox"/>	
40	28	Info Record for Non-Stock Item		<input checked="" type="checkbox"/>	

A requirement for access number 10 is 35 - Plant info record. If there is no plant info record for the combination of the values in table 17, access 10 will not be used at all.

R..	Description
28	No Variant (SA)
29	No Exception 'N'
30	No Exclusion 'V'
31	No Exclusion 'U'
33	Tax code 2 <>'0'
34	Variant BME active
35	Plant info record
36	Plant info rec./BME
37	Variant
38	Plant inf.rec.(NLAG)
40	TAXK2,TAXM2<> '0'

Step 3)

1. Select the access you want to modify.
2. Choose the lowest level folder in dialog structure - **Fields**.

Change View "Accesses": Overview

No.	T.	Description	Requirement	Exclusive
5	16	Contract Item		<input checked="" type="checkbox"/>
10	17	Material Info Record (Plant-Specific)	35	<input checked="" type="checkbox"/>
1	20	Material Info Record		<input checked="" type="checkbox"/>
30	25	Info Record for Non-Stock Item (Plant-Specific)	38	<input checked="" type="checkbox"/>
40	28	Info Record for Non-Stock Item		<input checked="" type="checkbox"/>

Step 4

1. You can see we are located on the details screen for access sequence PB01, access 20 and table 18.
2. The key fields of a condition table used in the condition access are showed here.

Condition table consists of condition fields which have certain attributes assigned to them. When the system tries to access a condition record it uses these attributes.

Condition	I/O	Doc...	Doc.f...	Long field label	Spec. Val. ...	Init	ATyp	Prio
LIFNR	←	KOMK	LIFNR	Vendor		<input type="checkbox"/>		
MATNR	←	KOMP	MATNR	Material		<input type="checkbox"/>		
EKORG	←	KOMK	EKORG	Purch. Organization		<input type="checkbox"/>		
ESOKZ	←	KOMP	ESOKZ	Info record category		<input checked="" type="checkbox"/>		

- **Special value source** – this field contains a value to be used as default while accessing (e.g. using a fixed info record category for the access sequence)
- **Init** – if this box is checked system will allow initial value for this field while accessing the condition table. If not system will not process the condition table lookup.

- **Atyp** – processing type in access. You can specify if the field is relevant for condition access if it is part of a free or fixed key type. Default is left blank (fixed key type).
- **Priority** – priority of a field (characteristic), it can be set from 01 to 99. Most of the time this field is left blank.

Define condition tables

Now, when we know what is a condition table, what it is used for, we can see where a condition table can be defined, and what option we have while creating it.

As you have seen in the previous topic, we have used table 18 – Material Info Record in our example.

Let's see where and how it is defined.

Step 1)

1. Execute the transaction code **V105** and on the initial screen enter our table number - **18**.
2. In the section 2, you can see our table definition, table number, description, and two options that can be selected. First means use of the validity period (always recommended) and the other is a check for release status of the record. If checked, only released info records will be taken into account while searching for the condition.
3. Here is the list of fields you have already seen in the Define access sequence topic.

You can see how is the table defined for later use in customizing the access sequence.

The screenshot shows the SAP V/05 transaction interface for displaying condition tables. The top bar includes icons for search, copy, paste, and help. The main title is "Display Condition Table (Pricing Sales/Distribution): Field Overview". Below the title are links for "Technical view", "Other description", and "Field attributes...". The "Table" selection area (highlighted with a red box labeled 1) shows "018 Material Info Record". Underneath are two checkboxes: "With validity period" (checked) and "with release status" (unchecked). The "Selected fields" section (highlighted with a red box labeled 2) lists "Vendor", "Material", "Purch. Organization", and "Info record category". The "FieldCatlg" section lists corresponding fields: "Long Key Word", "Account group", "Accounting Indicator", "Activity Code GI Tax", "Agreement", and "Base Unit of Measure". The "Info record category" entry in the selected fields section is also highlighted with a red box labeled 3.

V/05 transaction is used for displaying a condition table.

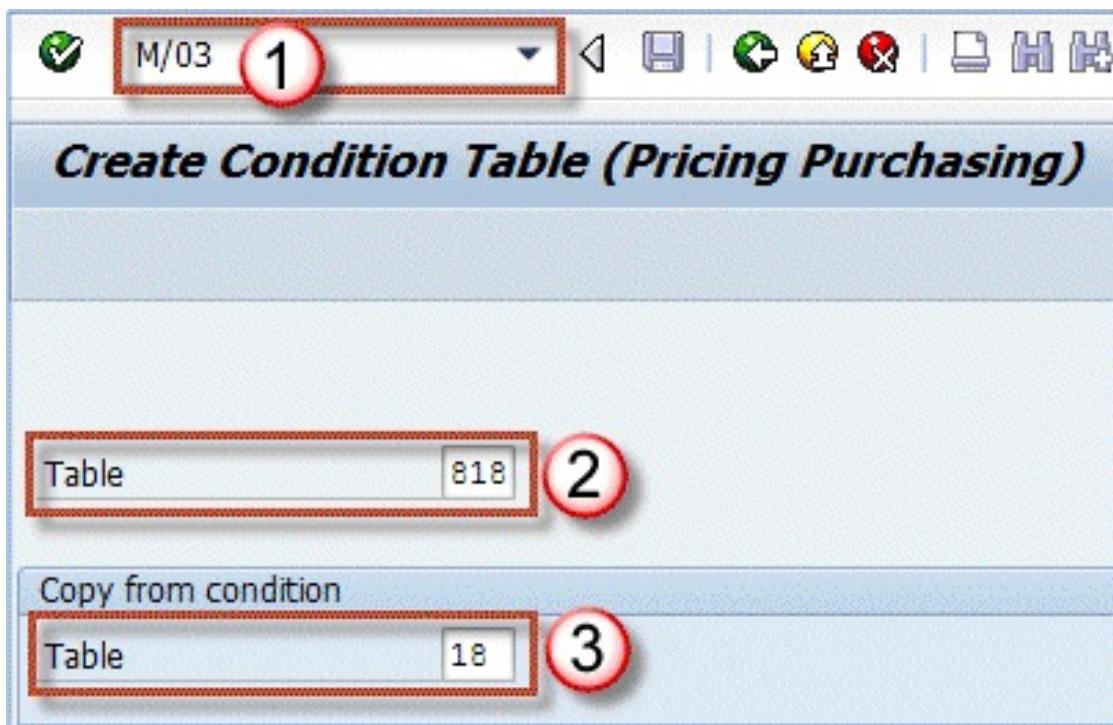
V/04 transaction is used for changing a condition table.

V/03 transaction is used for creating a condition table.

Now you can define a new condition table if it is required, in order to use it in the access sequence definition. Most of the times new access tables aren't required since a vast number of predefined tables.

Step 1)

1. Enter t-code M/03 and execute it.
2. Choose your new table number (must be unused, e.g. 818).
3. If you want to copy an existing table into your new table, you can select the source table here. This is useful if your table is similar to another existing table, and needs only a simple change to fulfill the requirements.



Step 2) On the next screen, you can do all of the settings for a condition table, and generate it.

1. Click this button if you want to edit the description.
2. Choose if your table should check validity periods and release statuses.
3. List of current fields. You can select any field you want to remove (by single clicking it) and choose the remove icon (List icon with a red minus sign).
4. You can add fields from field catalog by double clicking them.
5. You need to generate the table in order for it to be used by pricing functions.

This screenshot shows the 'Field Overview' step of the condition table creation process. The top navigation bar includes links for 'Select field', 'Technical view', 'Other description', and 'Field attributes...'. There are also icons for creating (+), deleting (-), and editing (pencil) fields. The table entry 'Table 818' is selected, indicated by a red circle labeled '5'. Under the 'With validity period' and 'with release status' checkboxes, both are checked, indicated by red circles labeled '2'. The 'Selected fields' list on the left contains 'Vendor', 'Material', 'Purch. Organization', and 'Info record category', with a red circle labeled '3'. The 'FieldCatlg' list on the right contains 'Antidumping Code', 'Bill-to party', 'CAS number (pharm.)', 'Comm./imp. code no.', 'Company Code', 'Condition Group', and 'Country', with a red circle labeled '4'.

You can also use right click to delete or add a field to your table, as well as to navigate the Field catalog on the right side of the screen. Not all of the fields can be shown in a single page of field catalog.

After successful creation, you will be prompted to create a change request and afterwards, you will be presented a log screen like you can see on the following screen.

Generate Log: Short Version			
Log Details		Documentation	Generated Object
Status	Ms...	Note	
Information	805	Table A818 has been saved	
Information	748	Reports and screens for table A 818 marked for generation	

You have successfully generated a condition table let's see if we can see it in the access sequence maintenance screens.

Tab	Short Description
345	Ceiling Duty Rate: Import Country/Orig.(
365	Trading contract/vendor/material
412	Vendor/Plant/Material/Base Product
442	Full Rate Excise Duty Company/Plant/Ta:
443	Red Rate Exc Duty Comp/Plant/Tax Gro:
444	Two-step transfer with tracking sign
445	Material
818	Vendor/Material/Purch.Org./Infotype

It's there, so now we can create an access using this table. We will not cover this in detail as it is extremely straight forward process.

On the accesses node of our access sequence, choose New entries button. You can create access like in the below screen for testing purposes.

New Entries: Overview of Added Entries

The screenshot shows the SAP interface for managing access sequences. The title bar says "New Entries: Overview of Added Entries". The left sidebar has icons for search, new entry, copy, paste, and delete. The main area shows "Access sequence PB01 Gross Price". A tree view on the left under "Dialog Structure" shows "Access Sequences" expanded, with "Accesses" selected, and "Fields" listed under it. The main table is titled "Overview Accesses" and has columns: No., T., Description, Require..., and Exclusive. One row is visible: No. 96, Type T, Description "818 Vendor/Material/Purch.Org./Infotype", Require... checked, and Exclusive unchecked.

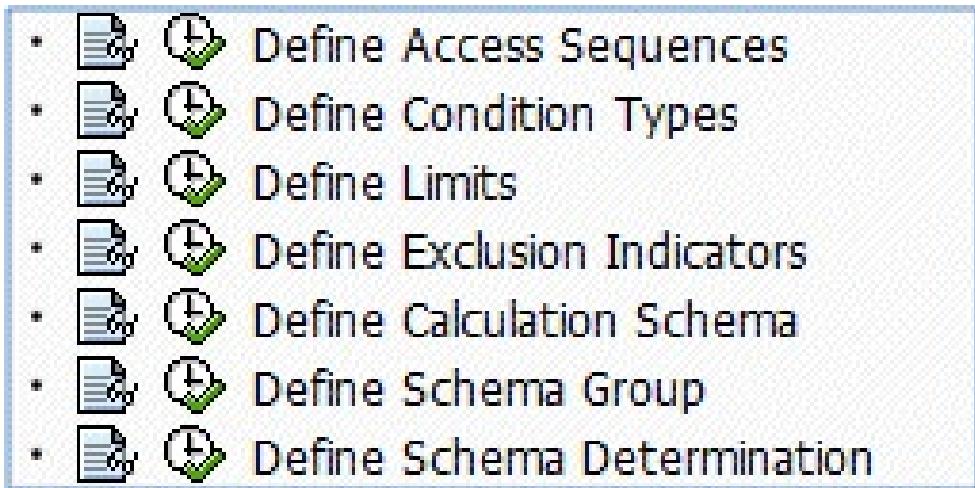
No.	T.	Description	Require...	Exclusive
96		818 Vendor/Material/Purch.Org./Infotype	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Fields should also be assigned to our access PB01 – 96 in order for it to work properly

A How to Define condition types

Defining of condition types can be done in few simple steps.

Step 1) In the IMG, click on the define condition types option.



Step 2) Choose Define Condition Type option.

A screenshot of the SAP Activities screen. The title bar says 'Activities'. Below it is a table with two columns: 'P...' and 'Name of Activity'. The first row contains the text 'Define Condition Type' with a red rectangular box around it, indicating it is the selected option. The second row contains the text 'Optimize Access'. On the right side of the screen is a vertical toolbar with several icons.

Step 3) You can find all of the existing entries for condition types.

1. Click on the desired condition you would like to change.
2. Click this icon to choose the selected condition and enter the change mode.
3. If you want to create a new entry click on New entries. In this case, you don't have to select any existing entries.
4. If you want to create a new condition type by copying an existing condition type (it will inherit its settings which you can change – just like copying a

condition table in the previous topic), you can choose this icon – copy condition type.

You have several more actions at your disposal: deletion, selecting all condition types, deselecting all condition types.

Change View "Conditions: Condition Types": Overview				
	CT...	Condition Type	Condition class	Calculation type
	MWVR	Input Tax Manually	Taxes	Percentage
	MWVS	Input tax manually	Taxes	Percentage
	NAVM	Non-Deductible Tax	Taxes	Fixed amount
	NAVS	Non-Deductible Tax	Taxes	Fixed amount
	NETP	Net Price Picking	Prices	Quantity
	NTRG	Net Value Payer Doc.	Prices	Fixed amount
	P000	Gross Price	Prices	Quantity
	P001	Gross Price	Prices	Quantity
	P100	Trans.Pr.Supply.Plnt	Prices	Quantity
	P101	Val.Price Supply.Pln	Prices	Quantity
	PA00	Promotion Price	Prices	Quantity
	PA01	Promo Price 2	Prices	Quantity
	PB00	Gross Price 1	Prices	Quantity
	PBXX	Gross Price	Prices	Quantity
	PNNO	Purch. Net/Net	Prices	Quantity
	R000	Discount % on Gross	Discount or surcharge	Percentage
	R001	Discount/Quantity	Discount or surcharge	Quantity
	R002	Absolute discount	Discount or surcharge	Fixed amount
	R003	Discount % on Net	Discount or surcharge	Percentage
	RA00	Discount % on Net	Discount or surcharge	Percentage
	RA01	Discount % on Gross	Discount or surcharge	Percentage
	RA02	Promo Discount % 1	Discount or surcharge	Percentage

If you select multiple condition types, you can edit them all by navigating through them in the following screen (arrow left and right or F7 and F8).

This screen has a lot of settings for a condition type, let's review the most important.

Step 4) First section of the screen contains condition type PB00, description, and access sequence used for condition determination.

A) Control data 1 section contains the following:

1. **Condition class** (e.g. prices, discounts, taxes)
2. **Calculation type** (e.g. quantity, percentage, fixed amount, formula)
3. **Condition category** (e.g. basic price, input tax)
4. **Rounding rule** (e.g. commercial, round up, round down)
5. **Plus/minus** (indicates if a condition can be positive, negative or both)

B) Group condition section:

1. **Group condition** (indicates if a condition calculates its value by more than one item in the document)
2. **RoundDiffComp** (rounding difference comparison)
3. **Group condition routine** (routine that calculates the value)

C) Changes which can be made section:

1. **Manual entries** (e.g. no limitations, not possible, manual entry has priority)
2. **Header condition** (indicates if a condition can be used at header level)
3. **Item condition** (indicates if a condition can be used at item level)
4. **Delete** (indicates if a condition can be deleted)
5. **Amount/percent** (can amount/percentage be changed)
6. **Value** (can value be changed)
7. **Qty. relation** (can conversion factor between UoMs be changed during processing)
8. **Calculat. Type** (can calculation type be changed during processing)

Change View "Conditions: Condition Types": Details

Control data 1 (Section A)

Cond. class	B Prices	1	5	Plus/minus	positive a
Calculat.type	C Quantity	2			
Cond.category	E Basic price	3			
Rounding rule	Commercial	4			
StrucCond.					

Group condition (Section B)

<input checked="" type="checkbox"/> Group cond.	1	3	GrpCond.routine
<input type="checkbox"/> RoundDiffComp	2		

Changes which can be made (Section C)

Manual entries	No limitations	1	5	Amount/percent	7
<input type="checkbox"/> Header condit.	2		<input checked="" type="checkbox"/> Qty relation	8	
<input checked="" type="checkbox"/> Item condition	3	4	<input type="checkbox"/> Value	6	
<input type="checkbox"/> Delete			<input type="checkbox"/> Calculat.type		

Step 5) The other section on the lower end of the same screen are:

D) Master data section:

1. **Valid to** (default date to use)
2. **Pricing Proc.** (pricing procedure to be used for this condition type)
3. **Pricing Proc.** (pricing procedure to be used for this condition type)
4. **Delete fr. DB** (deletion procedure for this condition type)

E) Scales section:

1. **Scale basis** (e.g. quantity scale, value scale)
2. **Check value** (default blank)
3. **Scale type** (controls the validity of the value/quantity)

F) Control data 2 section:

1. **Currency Conv.** (indicates if currency conversion is allowed)
2. **Accruals** (if you check this box you indicate that it is a statistical condition)
3. **Promotion condition** (is this condition relevant only for promotions)
4. **Quantity conversion** (controls how quantity conversion will be processed)

5. **Exclusion** (condition exclusion indicator – e.g. gross price, tax code, delivery cost)
6. **Rel.Acc.Assig** (determines if the condition type is relevant for account assignment)

Master data		D
valid from	Today's date	1
Valid to	31.12.9999	2
RefConType	<input type="checkbox"/> Condition index	
RefApplicatio		
Scales E		
Scale basis	C Quantity scale	1
Check value	None	2
Scale type	can be maintained in con	3
Control data 2 F		
<input type="checkbox"/> Currency conv	<input type="checkbox"/> Promotion Cond	3
<input type="checkbox"/> Accruals	<input type="checkbox"/> Variant cond.	2
<input type="checkbox"/> Inv.list cond.	<input type="checkbox"/> Qty conversion	4
<input type="checkbox"/> Int-comBillCond	<input checked="" type="checkbox"/> Gross Price	5
<input type="checkbox"/> Rel.Acc.Assig <input type="checkbox"/> Relevant for account ass 6		
Sales pricing		
<input type="checkbox"/> Rel. to pricing	<input type="checkbox"/> Pricing on/off	
Text determination		
TextDetPrc	<input type="button" value="▼"/>	Text ID

When you are done with creating, changing or copying of the condition type, you can save your changes.

How To Define Calculation Schema

As you saw in the previous topic, a condition type is assigned a calculation schema. It is defined in customizing.

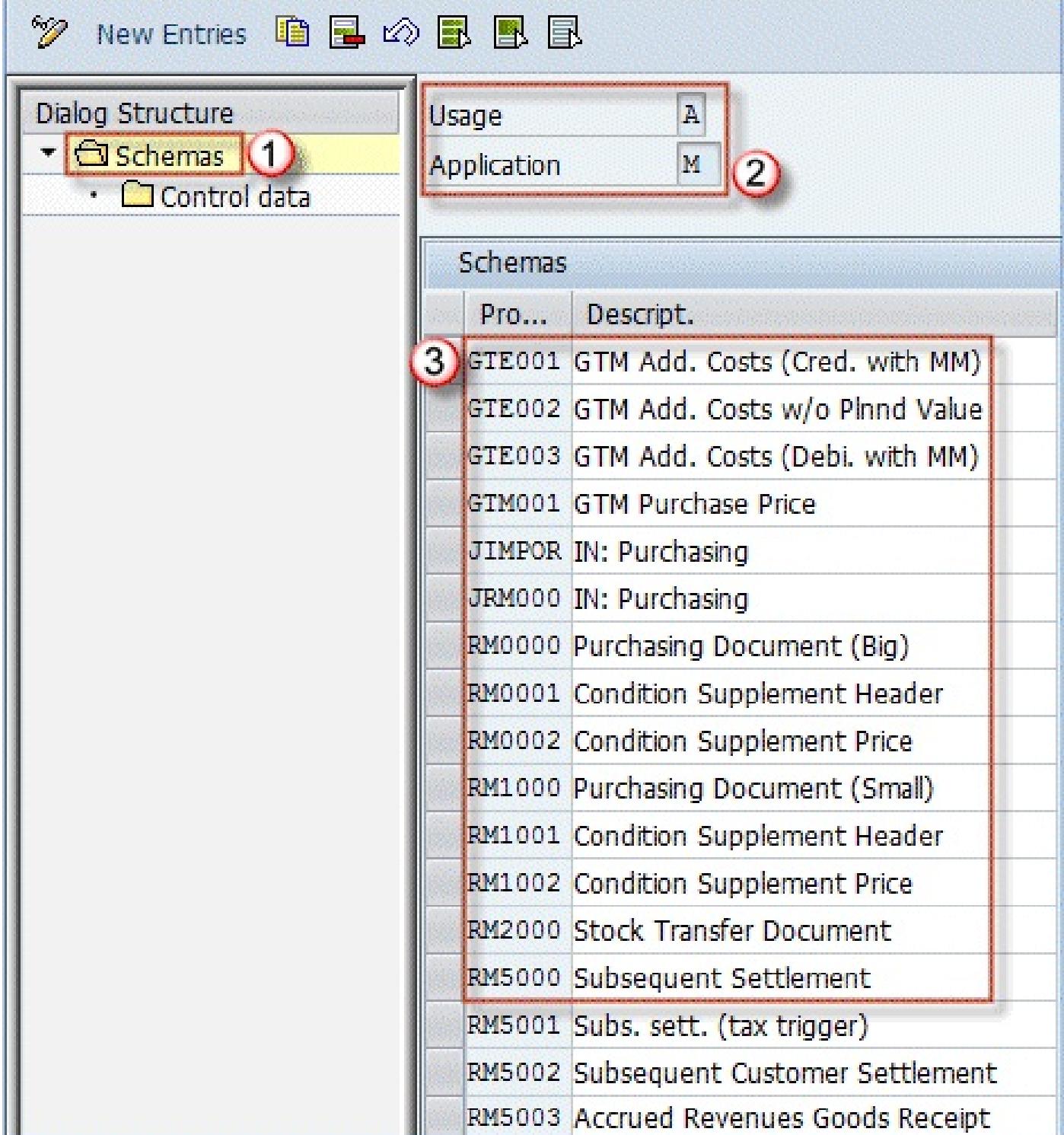
Step 1) In IMG, Choose Define Calculation Schema option.

- * **Define Access Sequences**
- * **Define Condition Types**
- * **Define Limits**
- * **Define Exclusion Indicators**
- * **Define Calculation Schema**
- * **Define Schema Group**
- * **Define Schema Determination**

Step 2)

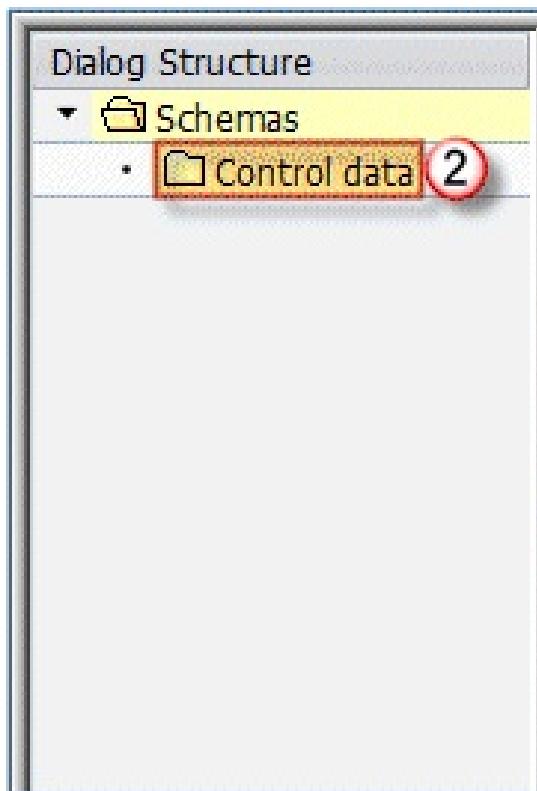
1. You can see that the initial screen contains a dialog structure with Schemas as the top level. Additionally, you can drop down to Control data.
2. Right portion of the screen shows Usage and Application data. We can see that usage is to **A – Pricing**, and application is set to **M – Purchasing**.
3. Contains a list of schemas and its short description

Change View "Schemas": Overview



Step 3)

1. Click on the schema you want to change
2. Double click the Control data node.



The screenshot shows the SAP dialog structure. In the left pane, under 'Dialog Structure', there is a tree view with 'Schemas' expanded, and 'Control data' is selected, indicated by a red circle with the number '2'. In the top right, there are tabs for 'Usage' (with 'A' selected) and 'Application' (with 'M' selected). The main area is titled 'Schemas' and contains a table:

	Pro...	Descript.
RM0000	Purchasing Document (Big)	
RM0001	Condition Supplement Header	
1 RM0002	Condition Supplement Price	
RM1000	Purchasing Document (Small)	
RM1001	Condition Supplement Header	
RM1002	Condition Supplement Price	
RM2000	Stock Transfer Document	

Step 4

The following table of condition types (reference steps) is used in this calculation schema. There are a number of options for condition types that can be set for this calculation schema (different settings could be set for the same condition type in the other calculation schema). *List of possible options with a short description:*

1. **Step** (indicates the sequence of the procedure)
2. **Counter** (counts the number of conditions in a step)
3. **Condition type** (one of the already defined condition types - previous topic)
4. **From** (reference step to be used as a base for calculating percentage conditions)
5. **To** (up to which step the conditions should be used as a base for calculating percentage conditions)
6. **Manual** (allowed to be entered manually)
7. **Required** (required condition)
8. **Statistics** (only statistical condition)
9. **Print** (printing control for condition)
10. **Subtotal** (how to calculate the subtotal)
11. **Requirement** (custom routine for the requirement)
12. **CalType** (calculating routine - if custom routine is needed)
13. **BasType** (custom routine for base condition value)
14. **AccKey** (G/L account key)
15. **AccrualAccKey** (G/L account key for accruals or provisions)

Procedure			RM0002 Condition Supplement Price															
Control data			Step	C...	CT...	Description	Fro	T.	Man...	Req...	St...	Print	SuTot	Reqt	Cal...	B...	Ac...	Acc...
1	2	3	view	4	5	6	7	8	9	10	11	12	13	14	15			
1	1	PB00	Gross Price										9					
5	1	GAU1	Orignl Price of Gold															
10	1	RB00	Absolute discount															
10	2	ZB00	Surcharge (Value)															
10	3	RA00	Discount % on Net															
10	4	ZA00	Surcharge % on Net															
10	5	RA01	Discount % on Gross	1														
10	6	ZA01	Surcharge % on Gross	1														
10	7	RC00	Discount/Quantity															
10	8	ZC00	Surcharge/Quantity															
10	9	MM00	Minimum Qty (Amount)															

After the right settings are applied to all of the conditions in a procedure you can save the transaction data.

How to Define Schema Group

We can create schema groups for purchase organization or vendor.

Schema groups are then assigned to purchase organizations in customizing and to vendors in vendor master record. They are used to map the pricing determination process based on the vendor or purchase organization.

- *   Define Access Sequences
- *   Define Condition Types
- *   Define Limits
- *   Define Exclusion Indicators
- *   Define Calculation Schema
- *   Define Schema Group
- *   Define Schema Determination

Step 1)

1. Choose Define Schema Group from SPRO IMG path like in the previous topics.
2. From the menu below, choose **Schema Groups: Vendor**.

P...	Name of Activity
	Schema Groups: Vendor
	Schema Groups for Purchasing Organizations
	Assignment of Schema Group to Purchasing Organization



Perform the activities in the specified sequence

Step 2)

On the next screen, you can define schema group for use in vendor master & maintain a description of your vendor schema groups.

You define only schema group number and description. There are no settings as this is used to be assigned to the vendor master record.

For example, we might need to create a new group 02 – Schema vendor 02.

Step 3) Next, choose **schema groups** for purchasing organizations from main schema group menu.

Activities	
P...	Name of Activity
	Schema Groups: Vendor
	Schema Groups for Purchasing Organizations
	Assignment of Schema Group to Purchasing Organization



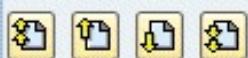
Perform the activities in the specified sequence

Define your schema groups per your requirement. You define only schema group number and description. No settings either, just an indicator assigned to a purchasing organization.

Schema GrpPOrg	Description
	Standard Schema
0001	Schema 0001

Step 4) Choose Assignment of Schema Group to Purchasing Organization from schema group menu.

Activities	
P...	Name of Activity
	Schema Groups: Vendor
	Schema Groups for Purchasing Organizations
	Assignment of Schema Group to Purchasing Organization



Perform the activities in the specified sequence

Assign desired schema group to purchasing organization. As you can see on the below screen, the field on the right is left blank, that is because **if you leave it blank, it means that the default purchase organization schema should be used.**

P...	Desc. Pur. Org.	Sch. Grp Pur. Org.
0001	Einkaufsorg. 0001	

If you want to use a standard schema for group organization, leave the field in the previous screen blank, and if you want to choose the Schema 0001 enter 0001 in the field marked in the upper screen. Screen with the available schemas for assignment to purchasing organization is available in the previous step (same as on below screen).

Schema GrpPOrg	Description
	Standard Schema
0001	Schema 0001

Step 5) Assigning a schema group in the vendor master.

Go to the purchasing data view. You will see **Schema group, Vendor** field. You can choose whichever schema group is suitable for this vendor, default is left blank for standard schema vendor.

You can see that this field is maintained at purchasing organization organizational level (0001), so in combination with schema group for that purchasing organization, if we check tables, the selected calculation schema will be **RM0000 – Purchasing Document (Big)**, as you can see in the next topic.

Change Vendor: Purchasing data

Alternative data Sub-ranges

Vendor	VENDOR1	Vendor 1	Wien
Purchasing Org.	0001	Einkaufsorg. 0001	

Conditions

Order currency	EUR	European Euro
Terms of paymnt	OD06	
Incoterms	EXW	Waldorf
Minimum order value		
Schema Group, Vendor		Standard schema vendor
Pricing Date Control		No Control
Order optim.rest.		

Define Schema Determination

Determination of calculation schema is a customizing activity.

You have to assign a pricing procedure to a schema group purchasing organization / schema group vendor combination.

Settings are located in Define schema determination option.



Step 1) Choose Determination Calculation schema for Standard Purchase Orders.

Activities	
P...	Name of Activity
	Determine Calculation Schema for Standard Purchase Orders
	Determine Schema for Stock Transport Orders
	Determine Calculation Schema for Determination of Market Price

Step 2)

- Choose schema group for purchasing organization.
- Choose schema group for vendor.
- Choose calculation schema to be assigned to the purch.org/vendor schema group combination.

Let's analyze two records on this screen.

1. In case 1, we have chosen default schema group for purchasing organization (first field is empty), also, default schema group for vendor (second field is empty), for this combination of both default schema groups, we assigned a RM0000 (Purchasing document - Big) calculation schema.
2. In case 2, we have chosen schema group for purchasing organization as 0001, and schema group for vendor as 01, and assigned an RM1000 calculation schema to the combination.

Schema Grp	Org	Sch.Grp	Vndr	Proc.	Description
	1			RM0000	Purchasing Document (Big)
			01	RM1000	Purchasing Document (Small)
			02	GTM001	GTM Purchase Price
0001				RM1000	Purchasing Document (Small)
0001	2		01	RM1000	Purchasing Document (Small)

How does it work?

Let's say that we have a purchase organization **0001** with **blank** (default) schema group assigned to it, and a purchase organization **0002** with schema group **0001** assigned to it (not default).

We also have a **vendor 1** with assigned schema group as **blank** (default), and **vendor 2** with schema group defined as **01** (not default).

- In case we are creating a purchase order through purchasing group 0001 for vendor 1, our calculation schema is going to be determined as RM0000.
- If we are creating a PO for vendor 2 through purchasing organization 0001, calculation schema RM1000 will be determined.
- If we are creating a PO for any of the two vendors in purchasing organization 0002, in both cases there will be determined calculation schema RM1000.

The below table clarifies the calculation schema determination.

VENDOR	VENDOR SCH.GRP.			
Vendor 1	Default (blank)	RM0000	RM1000	
Vendor 2	01	RM1000	RM1000	
		Default (blank)	0001	PURCH.ORG.SCH.GRP.
		Purchasing Organization 0001	Purchasing Organization 0002	PURCHASING ORGANIZATION

You are done. Your pricing procedure is now fully functional.

You can use some advanced features like condition exclusions, copy control, define limits for condition types etc.

Chapter 7: Inventory Management

Overview of Inventory Management

Inventory management is used to manage the inventory for the goods. It is based on several key processes. Definition of movement types, reservations, goods issue and goods receipt.

We have already done basic goods receipt process in the purchase order topic, referencing it to a PO.

There are a number of functions and transactions used in the Inventory management processes, and we will cover the most important in this tutorial.

Movement types

Movement types are used as indicators of what is the purpose of the goods movement (e.g. from storage location to a storage location, receipt from purchase order, issue for the delivery, receipt from production).

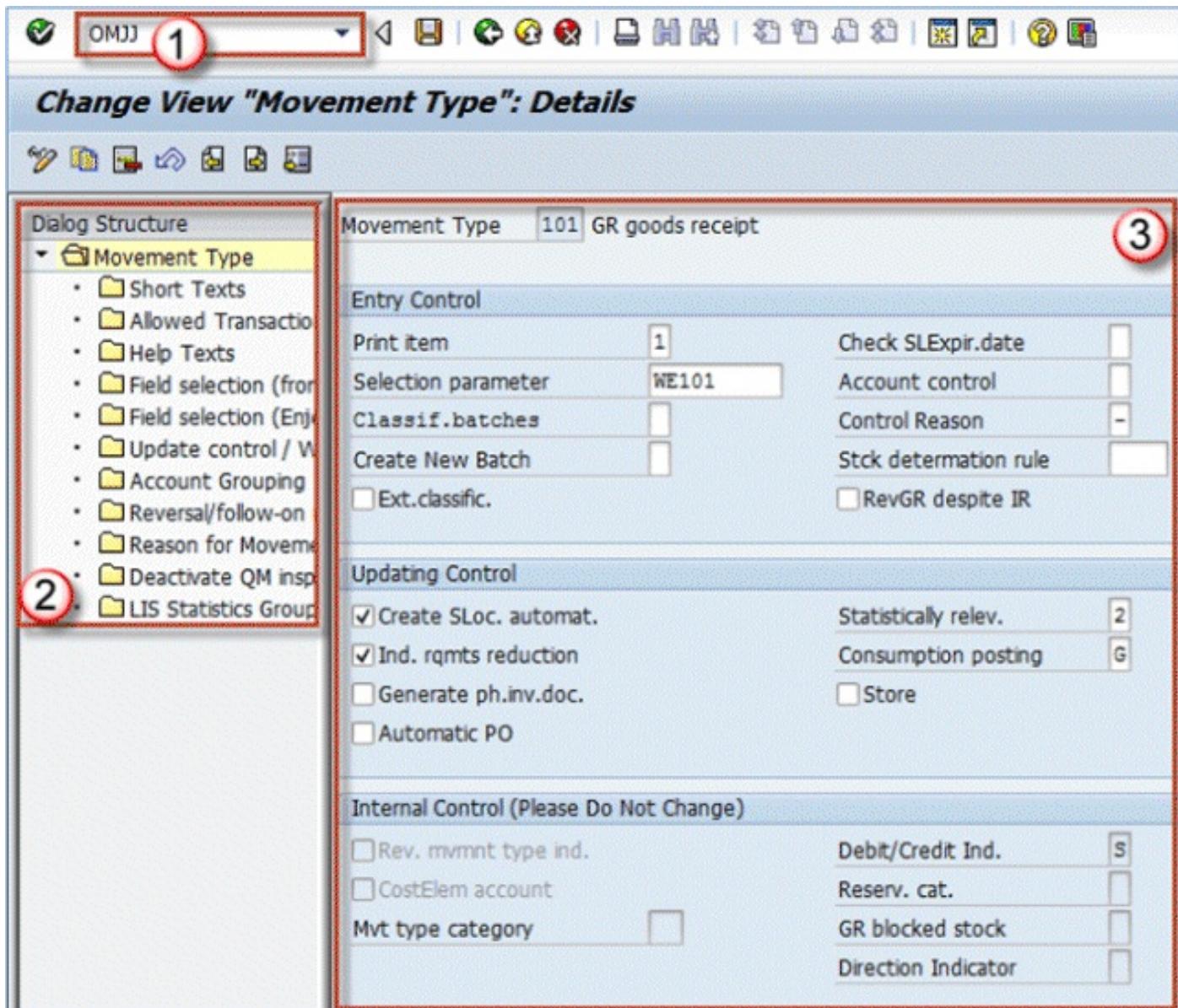
Movement types have its predefined settings in standard SAP system, and they can be customized according to your needs.

Also, you could use the same movement type for different processes if you use **movement indicators** properly. For example, movement type **101** with movement indicator **B** is used for goods receipt from purchase order. The same movement type **101** with movement indicator **F** is used for production order goods receipt.

You can see on the next screen how the movement type maintenance screen looks.

Huge number of options are available to set up the movement type properly, and it's access by the **OMJJ** transaction code.

1. Execute **OMJJ** transaction, and on the initial screen choose **Movement type**, on the next screen enter the movement type range you wish to edit. You will be presented a screen that looks like the next screen.
2. You can see a dialog structure on the left. These options are used for setting up our movement types according to our needs.
3. When you select any of the options the details screen on the right is updated with settings for that node.



This is not in a scope of this tutorial, as configuring the movement type requires extremely deep knowledge of the processes in MM module (inventory management component).

You just need to understand for now what does the movement type, and movement indicator represent.

Feel free to take a tour around the OMJJ transaction to get a bit more insight on the actual setting that can be made on movement type, and movement type/movement indicator level.

To summarize the lesson, movement types are used for distinction how the goods will be moved in our inventory.

For example,

- We will set up our movement type **101** to be used for goods receipt.
- Movement type 311 to be used for stock transfer from one storage location to another in one step.
- Movement type for goods issue for outbound delivery..

Another thing to know is that every movement type needs to have a reversal movement type defined (if we need to cancel **311** we have to define **312** as a reversal movement type, **101 => 102, 601 => 602**). **Material document** Material document is a document in SAP that contains information on processing of goods movements (receipt, issue, transfer).

When you create a material document you are actually moving stock quantity in a certain way as defined by movement type.

If movement type 311 is stated in the material document, material will be transferred from one location to another (transfer process). If it's 101, material document will not have a source storage location but will have a destination (receipt process). If it's movement type 601, material document will only have source storage location but will not have a destination (issue process).

Goods receipt scenarios

As I said in the previous topic, goods receipt can be done referencing a purchase order, production order, inbound delivery or without reference for other kinds of receipt processes.

We can set up our movement types behavior according to a movement indicator.

I mentioned in the previous topic that there are several indicators that can be used to specify the referencing document type, and create settings for every one of them in combination with movement type.

- B – purchase order
- F – production order
- L – inbound delivery
- Blank – no reference

Other – not that significant for now

How to create Goods Receipt

To create goods receipt, you can use **MIGO** or **MB1C** transaction.

Mostly people use MIGO as it's designed to have all the options for all of the movement scenarios.

Step 1

1. Execute the **MIGO** transaction.
2. Choose **A1 – Goods receipt** process.
3. Choose **R01 – Purchase order**.
4. Enter your purchase order number here.
5. Click on execute button.

Line	Mat. Short Text	O.	Qty in UnE	E..	SLoc	Batch	Valuation...	M.
1	LCD TV 40"	1	2		PAL Lager 0001			

Step 2

Our material is transferred to the item overview section.

Choose posting and document date (recommended to stay as today like it's default).

Line	Mat. Short Text	O.	Qty in UnE	E..	SLoc	Batch
1	LCD TV 40"	1	2		PAL Lager 0001	

Step 3)

1. You can choose on the header level – Vendor tab to view vendor information.
2. If you click on the line item number, you will see several tabs in the bottom of the screen appear, and you can choose any of those to view some specific information about the item.
3. If you choose Material tab, you will see the general material data.

The screenshot shows the SAP Purchase Order entry screen. At the top, there are two tabs: 'General' and 'Vendor'. The 'Vendor' tab is selected and highlighted with a red circle containing the number 1. Below the tabs, the vendor information is displayed: Vendor name 'VENDOR1' (highlighted with a red circle containing 1), Vendor ID 'Vendor 1', and Address '1234 Wien'. The main area shows a table of purchase order lines. The first line has a red circle containing 2 around its line number. The table columns include Line, Mat. Short Text, O., Qty in UnE, E., SLoc, and Profit Ce... . The first line's details are: Mat. Short Text 'LCD TV 40"', O. '1', Qty in UnE '2', E. 'PAL', SLoc 'Lager 0001', and Profit Ce... 'SAP-DUMMY'. At the bottom of the table are standard SAP toolbar icons for New, Copy, Delete, and Contents. Below the table, another set of tabs is visible: 'Material' (highlighted with a red circle containing 3), Quantity, Where, Purchase Order Data, Partner, and Account Assignment. The 'Material' tab is selected. The material details shown are: Material 'LCD TV 40"', Vendor Material No. '79855899', Material Group '100', EAN in Order Unit (empty field), and EAN Check (empty field).

Step 4)

Check the Quantity information in this tab. You can do goods receipt for less than the initial value if you change it. You will still see the ordered quantity in the bottom of the screen.

Material	Quantity	Where	Purchase Order Data	Partner	Account Assignment
Qty in Unit of Entry	2		PAL		
Qty in SKU	24		PCS		
Qty in Delivery Note					
Quantity Ordered	2		PAL	No. Containers	

Step 5

The next tab contains information about the destination for the goods.

1. You can see the movement type used for receipt process,
2. destination plant and storage location,
3. as well as stock type upon receipt. We can see that this material is going to be posted to quality inspection (this indicator is set in material master and has been referenced in earlier topics), so it will not be available for use until confirmed to be in satisfying quality.
4. There's also information about goods recipient and unloading point.

If you need to change the storage location, or override the stock posting type, you can do it here..

Material	Quantity	Where	Purchase Order Data	Partner	Account Assignment
Movement Type	1 101		+ GR goods receipt	Stock type	3 2 Quality inspect...▼
Plant	2 Werk 0001		0001	Lager 0001	
Storage Location	2 Lager 0001		0001		
Goods recipient	4				
Unloading Point					

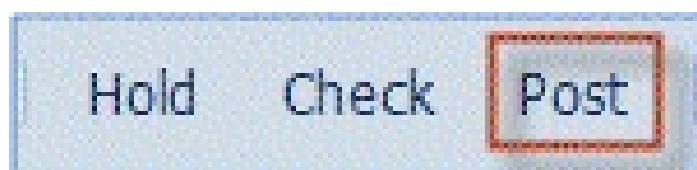
Step 6

You can find purchase order related data in this tab.

1. You can change the update type for delivery completed indicator (on the purchase order). It is set to be automatically updated upon posting, but you can change it if your process requires a different approach.

Material	Quantity	Where	Purchase Order Data	Partner	Account Assignment
Purchase Order		4500018385	10		Item Category Standard
"Del.Completed" Ind.		1 Set automa... ▾		<input type="checkbox"/> Del. Compl. Ind. PO Item	
Incoterms		EXW Wien			

2. After review of all of the tabs, and after you have assured that your data is accurate, you can flag the items as OK. Now you can post the document.



Upon posting, you will see that material document has been generated.



Now you can check the material document by using transaction code **MB03**.

1. Execute the transaction **MB03**.
2. Enter material document and document year.
3. Press ENTER.

	MB03	1							
<i>Display Material Document: Initial Screen</i>									
<table border="1"> <tr> <td>Material Doc.</td> <td>2</td> <td>5000023571</td> </tr> <tr> <td>Mat. Doc. Year</td> <td>2</td> <td>2013</td> </tr> </table>				Material Doc.	2	5000023571	Mat. Doc. Year	2	2013
Material Doc.	2	5000023571							
Mat. Doc. Year	2	2013							

You can see some basic information about the document and items.

Double click the item.

Display Material Document 5000023571 : Overview

Details from Item Material Accounting Documents...

Posting Date	16.05.2013	Name	MSUNDIC							
Items										
Item	Quantity	EUn	Material	Plnt	SLoc	PO	Item	S	DCI	
		BUn	Material Description	Batch			R	MvT	S	S
1	2	PAL	10599999	0001	0001	4500018385	10			<input checked="" type="checkbox"/>
	24	PCS	LCD TV 40"				101	+	X	

On item details, you can see some additional item information.

◀ ▶ ⚙️ 📜 Messages WM Details... Material

Purchase Order	4500018385	10	Movement Type	101	GR goods receipt
Plant	0001		Werk	0001	
Vendor	VENDOR1		Vendor	1	
Material	10599999		LCD TV 40"		
Quantity in					
Unit of Entry	2	PAL	Stor. Location	0001	Stock Type <input checked="" type="checkbox"/>
Stockkeepg Unit	24	PCS			
<input checked="" type="checkbox"/> Deliv. Compl.					
Further Information					
Company Code		0001	Fiscal Yr	2013	

You are done with posting the goods receipt. The process is the same for the production order, as well as for the inbound delivery.

How To Cancel Goods Receipt

After you have posted the goods receipt in MIGO, you can check stock levels in **MMBE** transaction code.

1. Execute the transaction.
2. For the requested material you will be shown stock levels for plants, storage locations and stock types (unrestricted, quality, blocked).
3. In the Quality inspection column, you can see that our material is posted there 2 PAL = 24 PCS. We also have unrestricted stock from some of the previous receipts.

The screenshot shows the SAP Stock Overview: Basic List (MMBE) interface. The top navigation bar has 'MMBE' selected. The selection screen shows material number 10599999, material type FERT, and unit of measure PCS. The stock overview table displays stock levels for Client/Company Code/Plant/Storage Location/Batch/Special Stock. The table includes columns for Unrestricted use and Qual. inspection. A red circle labeled '1' highlights the transaction code in the top bar. A red circle labeled '2' highlights the material number in the selection screen. A red circle labeled '3' highlights the 'Qual. inspection' column header in the stock overview table.

Client/Company Code/Plant/Storage Location/Batch/Special Stock	Unrestricted use	Qual. inspection
Full	120,000	24,000
0001 SAP A.G.	120,000	24,000
0001 Werk 0001	120,000	24,000
0001 Lager 0001	120,000	24,000

Let's say that we have made a mistake, we wanted in this special case, our material to be posted directly to unrestricted stock. Therefore, we need to cancel the posting to reverse the process and do it again properly.

We can use MIGO transaction to cancel a posting.

Step 1)

Choose **A03 Cancellation**, **R02 Material document**, enter the material document that has been created after posting the goods receipt from purchase order. **Execute**.

Cancellation Material Document - Mihailo Šundić

Show Overview | □ | Hold | Check | Post | Help

A03 Cancellation | R02 Material Docu... | 5000023571 | 2013 |

General

Document Date	<input type="text"/>	Delivery Note	<input type="text"/>
Posting Date	16.05.2013	Bill of Lading	<input type="text"/>
		HeaderText	<input type="text"/>

Step 2)

1. Check the indicator that item is OK.
2. Post.

Show Overview | □ | Hold | Check | **Post** | Help

A03 Cancellation | R02 Material Docu... | 5000023571 | 2013 |

General Vendor

Document Date	16.05.2013	Delivery Note	<input type="text"/>	Vendor	Vendor 1
Posting Date	16.05.2013	Bill of Lading	<input type="text"/>	HeaderText	<input type="text"/>
<input type="checkbox"/> 3 Collective Slip	<input type="button" value="▼"/>				

Line	Mat. Short Text	O.	Qty in UnE	E.	SLoc
1	LCD TV 40"	<input checked="" type="checkbox"/>	2	PAL	Lager 0001

Step 3)

Check in **MMBE** if our goods receipt cancellation is in effect. As you can see, the quality inspection column is empty. It means that we have successfully reversed/cancelled our goods receipt posting.

Selection

Material	10599999	LCD TV 40"
Material Type	FERT	Finished Product
Unit of Measure	PCS	Base Unit of Measure
PCS		

Stock Overview

Client/Company Code/Plant/Storage Location/Batch/Special Stock	Unrestricted use	Qual. inspection	Reserved
Full	120,000		
0001 SAP A.G.	120,000		
0001 Werk 0001	120,000		
0001 Lager 0001	120,000		

It also means that we can use the purchase order number in **MIGO** to post the goods receipt again, this time with the correct settings.

Reservation of Inventory

Reservations are system documents that show a requirement for a certain amount of good for production, cost center and any other need.

Reservations are important in planning/MRP/ATP as the system reserves needed quantities before they are posted. If there weren't reservations in the system, we might encounter a problem that we need to use the goods for production order, but we can not post the goods issue because a sales order has taken the goods just few minutes ago. When we create the reservation, system doesn't allow any other document to reserve the goods for other purpose. This also depends on the system settings for MRP/ATP. You might give reservations a privilege to always take the goods off the stock, even if it is already reserved by the sales order or delivery (not quite good solution). But you can also customize the system that sales orders don't check the reservations when performing availability check.

You can create a reservation for the material for a number of reasons. System can also create the reservation if the MRP settings imply that kind of system behavior.

This is done either by the system automatically or by using **MB21** transaction code.

Step 1)

1. Execute the transaction MB21.
2. Fill in the fields as needed.



Reservation can be made for consumption for a cost center (movement type 201), production order (movement type 261), stock transfer (311), sales order, project, network etc.

Choose the appropriate movement type according to your needs. Choose movement type **201**.

If you entered movement type **321** (from the above screen), you surely got the error message. It means that this movement type cannot be used for creating a reservation.

It also means you aren't following my steps closely. Please read the text above it says that we are going to use movement type **201**.

Step 2)

1. Enter cost center.
2. Fill in the item data. Material number, quantity, source storage location.

Create Reservation: New Items

Delete Item(s)

Movement Type 201 GI for cost center

G/L Account

Goods recipient

Cost Center

SAP-DUMMY

1

Items

Item	Material	Quantity in	UnE	Plnt	SLoc	Batch	M
1	10599999	20	pcs	0001	0001		<input checked="" type="checkbox"/>
2				0001			<input checked="" type="checkbox"/>
3				0001			<input checked="" type="checkbox"/>
4				0001			<input checked="" type="checkbox"/>
5				0001			<input checked="" type="checkbox"/>
6				0001			<input checked="" type="checkbox"/>
7				0001			<input checked="" type="checkbox"/>
8				0001			<input checked="" type="checkbox"/>
9				0001			<input checked="" type="checkbox"/>
10				0001			<input checked="" type="checkbox"/>
11				0001			<input checked="" type="checkbox"/>
12				0001			<input checked="" type="checkbox"/>
13				0001			<input checked="" type="checkbox"/>

Save the document. You will get the reservation number you need to use in the next step.



Document 0000656263 posted

Now we have to create a material document for the reservation. We can do that through MIGO, but this time let's learn another transaction.

We can use the transaction code **MB1A** to create a goods issue with reference to material reservation.

Step 1)

1. Execute the transaction.
2. Choose button **To Reservation...**

Enter Goods Issue: Initial Screen

New Item To Reservation... To Order... WM Parameters...

Document Date: 16.05.2013 Posting Date: 16.05.2013

Material Slip: []

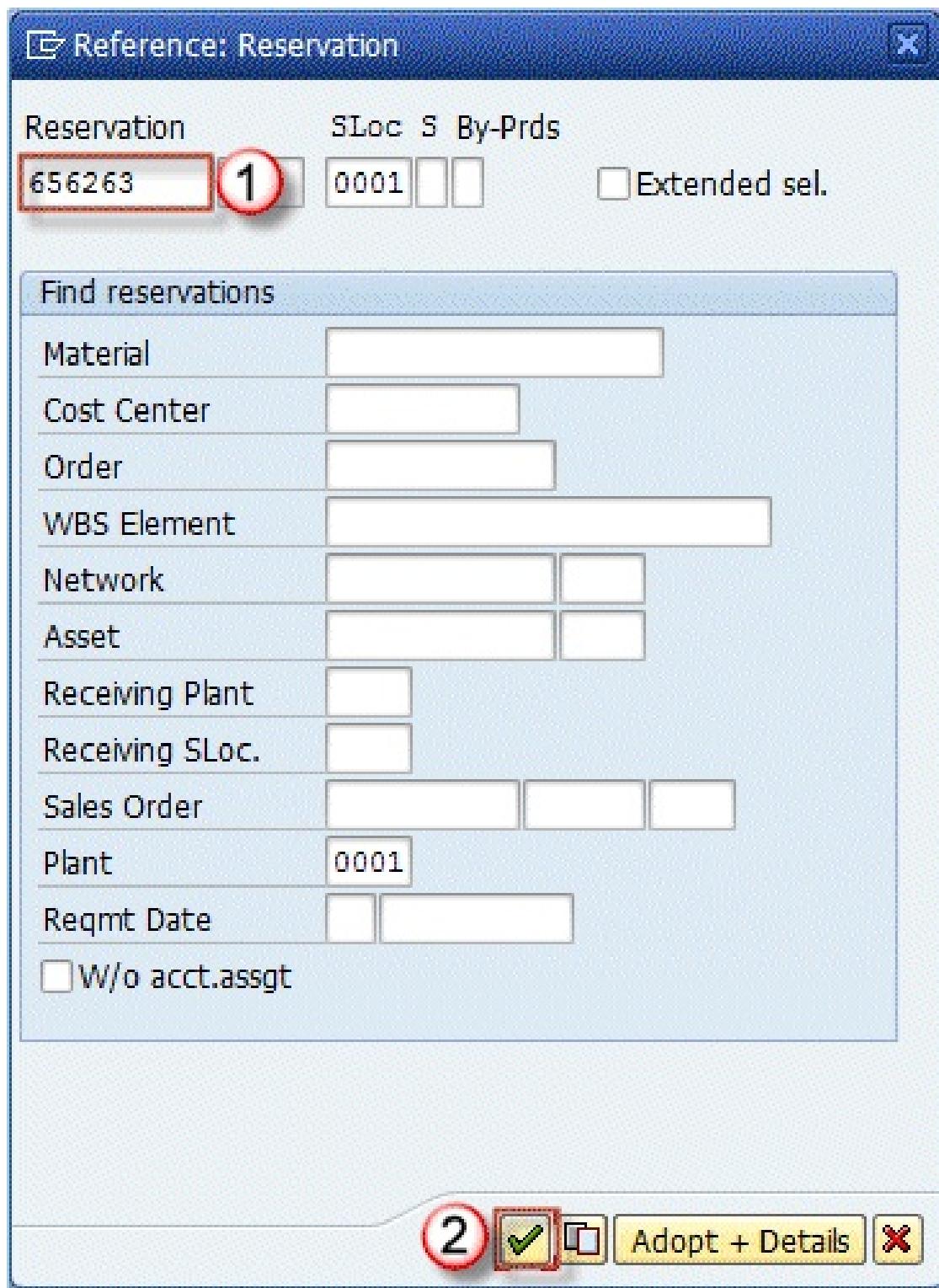
Doc.Header Text: []

Defaults for Document Items

Movement Type	201	Special Stock	[]
Plant	0001	Reason for Movement	[]
Storage Location	0001	<input type="checkbox"/> Suggest Zero Lines	

Step 2)

1. Enter reservation number.
2. Confirm.



Step 3)

1. If you need to change any of the fields, quantity, storage location etc. do it and save the document.

Enter Goods Issue: Selection Screen

Movement Type 201 GI for cost center
Cost Center SAP-DUMMY SAP dummy
Recipient
Reservation 656263

Item	Material	Quantity	UnE	SLoc	Batch	Re	Plnt	Itm	FIs
<input checked="" type="checkbox"/> 1	10599999	20	PCS	0001		0001	1		<input type="checkbox"/>

You will get the material document number in the status bar message.



Document 4900547507 posted

Let's say that we want our reservation cancelled.

Of course, it can be done using MIGO transaction, but let's find out about another transaction.

Step 1)

1. Execute the **MBST** transaction code.
2. Enter the document number created in the previous step. Hit **ENTER**.

Cancel Material Document: Initial Screen

Posting Date: 16.05.2013
 Material Doc.: 4900547507
 Mat. Doc. Year: 2013

Defaults for Document Items
 Reason for Mvmt: [empty]

Step 2)

You can see that for this purpose system uses movement type **202** – reversal for cost center.

That is because we have defined it as a reversal movement type for Mvt.type 201 in OMJJ transaction.

Save the transaction data and your previous document is reversed.

Movement Type	202	RE for cost center																				
Cost Center	SAP-DUMMY	SAP dummy																				
Recipient		[empty]																				
Reservation		656263																				
Items <table border="1"> <thead> <tr> <th>Item</th> <th>Material</th> <th>Quantity</th> <th>UnE</th> <th>SLoc</th> <th>Batch</th> <th>Re</th> <th>Plnt</th> <th>Itm</th> <th>FIs</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> 1</td> <td>10599999</td> <td>20</td> <td>PCS</td> <td>0001</td> <td></td> <td>0001</td> <td>1</td> <td></td> <td></td> </tr> </tbody> </table>			Item	Material	Quantity	UnE	SLoc	Batch	Re	Plnt	Itm	FIs	<input checked="" type="checkbox"/> 1	10599999	20	PCS	0001		0001	1		
Item	Material	Quantity	UnE	SLoc	Batch	Re	Plnt	Itm	FIs													
<input checked="" type="checkbox"/> 1	10599999	20	PCS	0001		0001	1															

Now you can create material document for the same reservation again, or **cancel the reservation** itself by using t-code **MB22**.

Step 1)

1. Execute the transaction.
2. Enter reservation number.Hit **ENTER**.



Step 2)

Click the check box to mark the reservation completed (it means that it isn't expected to be any more goods postings for this reservation).

This screenshot shows the 'Change Reservation 0000656263 : Collective Processing' screen. At the top, there are icons for a new document, edit, and details from item. Below that, the movement type is set to '201 GI for cost center'. The cost center is 'SAP-DUMMY' and the goods recipient is empty. In the bottom right corner, there is a red circle with the number '1' and a dashed arrow pointing to a checkbox labeled 'MFI's D'. The items section shows one item row: Item 10599999, Quantity 20, Unit PCS, Location 0001, and Batch 0001. The 'MFI's D' checkbox is checked.

You have successfully dismissed the reservation from further processing.

How to issue goods

Another important process in inventory management is goods issue posting. Reservations are considered a specific process on their own, but essentially reservation use a goods issue logic. When we created a material document for reservations, we have issued goods from warehouse to the cost center, production order etc.

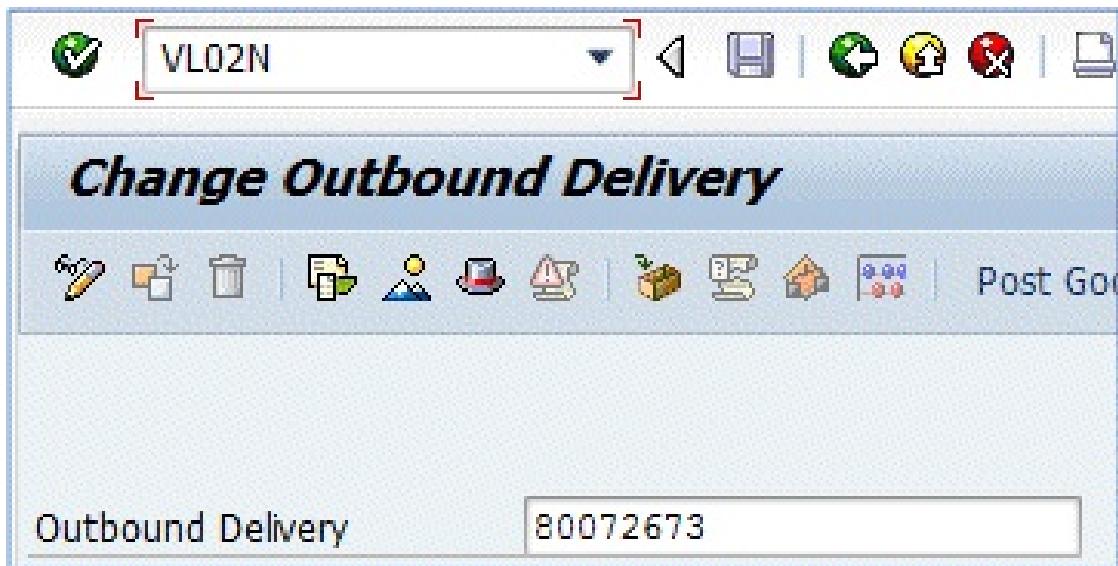
Now, we can talk about other goods issuing processes. The most important of all is for outbound delivery. The process works as follows -

1. We have an inbound delivery for our material 10599999 incoming from sales department.
2. After the goods are loaded in the truck we should do a goods issue posting for the delivery.
3. We are sent the delivery number **80072673** created for our material 10599999 and we need to process the delivery in inventory management by posting the goods issue.

It is done in sales transaction VL02N mostly used by the MM users in logistics. Departments that use this transaction can vary depending on the organizational structure in the company.

Step 1)

1. Open **VL02N** transaction.
2. Enter the delivery number you need to process. Hit **ENTER**.



Step 2)

1. Enter the Plant and Storage Location.
2. Enter picked quantity. If full quantity has been picked and loaded, enter 20

PCS but if for some reason loaded quantity is 12 PCS (e.g. truck already full) you will enter 12 in Deliv. Qty field and in the Picked Qty fields.

3. Post Goods Issue.

The screenshot shows the SAP Post Goods Issue interface. At the top, there are several icons followed by the text "Post Goods Issue" and a red circle with the number "3". Below this, there are two input fields: "Outbound deliv." with value "80072673" and "Document Date" with value "16.05.2013". To the right of these is a "Ship-to party" field with value "2025070" and a "Customer" field showing "Customer 1 / 12 Address / Wien 1234". A navigation bar below these fields includes tabs for "Item Overview", "Picking" (which is selected), "Loading", "Transport", "Status Overview", and "Goods Movement Data". Under the "Picking" tab, there are two rows of settings: "Pick Date/Time" set to "16.05.2013 15:0...", "OvrlPickStatus" set to "A Not yet picked", and "Warehouse No." set to "100 Lean WM (without st...)" with "OverallWMStatus" set to "No WM trnsf ord reqd". The main area is titled "All Items" and contains a table with columns: Item, Material, P..., S..., Deliv. Qty, U., Picked Qty, U., and Batch. A single row is visible, showing "10" in the Item column and "10599999" in the Material column. The "Deliv. Qty" field (row 1) has a value of "0001 0001 20" and the "Picked Qty" field (row 2) has a value of "PCS 20". Red circles with numbers 1 and 2 highlight the "Deliv. Qty" and "Picked Qty" fields respectively.

You are done

If for some reason you need **to reverse/cancel goods issue for outbound delivery**, you can use the transaction **VL09**.

Step 1)

1. Execute transaction **VL09**.
2. Enter the appropriate delivery number.
3. Press the execute button. As you can see, you can use this function for inbound deliveries too.

Reverse Goods Movement

Transacts to Be Canceled

Shipping Point	0001	to	[]	[]
Route		to	[]	[]
Goods Movement Date		to	[]	[]
Inbound / Outbound Delivery	2 80072673	to	[]	[]
Group of Deliveries		to	[]	[]
Shipment Number		to	[]	[]

Inbound Delivs & Outbound Delivs
 Outbound Dely
 Inbound Dlvs

Step 2)

1. Select the line with the delivery you want to process.

Click the Reverse button.

Confirm if asked. If you get the message that the goods issue is reversed successfully, you are done.

If not, there's a problem in the processing which has to be identified by superuser or consultant.

Reverse Goods Movement

	Delivery	Dlv...	ActGIDat	SPT	L...	Route	PckDate	ShpToPrty	RvrsDate	G
1	80072673	WOD	16.05.2013	0001			16.05.2013	2025070	16.05.2013	C

Other types of processes where posting a goods issue is needed

You can see the **MIGO** transaction for reference to more options for posting a goods issue.

Choose **A07 - goods issue**, and in the next drop-down menu you will find several options. To give you a little "homework", you can explore the options by yourself, here's just a short look on them.

- **R02 - Material Document** (post goods issue for a material document)
- **R08 - Order** (post goods issue for a production order)
- **R10 - Other** (without the reference document)
- **R01 - Purchase Order** (PGI for a purchase order)
- **R09 - Reservation** (PGI for reservation – I have demonstrated this process by using **MB1C** transaction)

The screenshot shows the SAP MB1C transaction interface. At the top, there is a menu bar with 'Show Overview', 'Hold', 'Check', 'Post', 'Help', and a dropdown for 'GI for cost center' set to '201'. Below the menu is a toolbar with icons for 'New', 'Save', 'Cancel', and 'Print'. A dropdown menu labeled 'A07 Goods Issue' is open, showing options: 'R02 Material Document', 'R08 Order', 'R10 Other', 'R01 Purchase Order', and 'R09 Reservation', with 'R09 Reservation' highlighted in yellow. The main area has tabs for 'General' (selected) and 'Document Date'. Under 'General', there are fields for 'Posting Date' (set to '16.05.2013') and 'Doc.Header Text'. Below these are buttons for 'Print' and '2 Individual Slip with...'. A large table below the header contains columns: Line, Mat. Short Text, O., Qty in UnE, E., SLoc, Batch, Valuation..., and M. The first row of the table is partially visible.

Transfer Posting of Goods

Transferring a quantity from one storage location to another can be accomplished by either using MIGO transaction or **MB1B**.

I will demonstrate the transfer posting process using MB1B as you have already seen MIGO in action.

Step 1)

1. Execute the transaction **MB1B**.
2. Enter movement type (311), source Plant and Storage location. Hit **ENTER**.

Enter Transfer Posting: Initial Screen

New Item To Reservation... To Purchase Order... WM Parameters...

Document Date 16.05.2013 Posting Date 16.05.2013

Material Slip

Doc.Header Text

Defaults for Document Items

Movement Type	311	Special Stock
Plant	0001	Reason for Movement
Storage Location	0001	<input type="checkbox"/> Suggest Zero Lines

Step 2)

1. Enter receiving storage location,
2. material number,
3. quantity,
4. unit of measure.

Save the document and the transfer posting will be completed.

Enter Transfer Posting: New Items

To Reservation... To Order... To Purchase Order...

Movement Type 311 TF trfr within plant

Recipient

1

Rcvg SLoc

0088

Items

Item	Material	Quantity	UnE	SLoc	Batch	Re	Plnt
1	10599999	4	3	pcs	0001		0001
2			4	0001			0001
3				0001			0001
4				0001			0001
5				0001			0001
6				0001			0001
7				0001			0001
8				0001			0001
9				0001			0001
10				0001			0001

The material document number is assigned.



Document 4900547509 posted

If you need to cancel this posting, you can use either **MBST** or **MIGO** transaction.

All About Physical Inventory

What is Physical Inventory?

Physical inventory is a process of determining that the inventory quantities are exact, or if there are differences in quantity mentioned physically present and that mentioned in the SAP system. Basically, after you are finished with physical inventory, your system and physical stock levels must be the same.

It is mandatory for legal reasons, and in the most of the times it is conducted once a year.

To simplify the process, check the below diagram, these are the most common steps for doing physical inventory (not only in SAP ERP).



Besides the legal reasons it is extremely helpful having the correct stock quantities in the system matching the physical stock. Management can have the correct information on the value of stock materials. ATP for sales is correct. MRP is done using the correct input parameters (material stock quantities).

Not having the correct stock levels in the system means quite the opposite. Management has the wrong picture on the financial aspect of the stock in possession. ATP uses the wrong data (sales might not be able to sell something physically on stock but not existing in the system, or system might allow selling something that isn't physically present in the warehouse). MRP is inaccurate (production planning and other material planning processes might be in a big problem as they are required to calculate the needs for production/procurement based on stock levels and several other information).

Now you see that having a clear and correct stock levels is of immense importance for a lot of processes in a company. Now you will see how physical inventory is done in MM module.

Types Of Physical Inventory

The following physical inventory procedures can be used in SAP system:

- **Periodic inventory**
- **Continuous inventory**
- **Cycle counting**
- **Inventory sampling**

Periodic inventory Most of the time companies use this kind of inventory. In most cases, it is done once a year, and this kind of inventory is called annual physical inventory. That means that material stock is counted once a year. Most of the times at the end of the year or after the season ends (in seasonal industries).

Continuous inventory All materials are counted at some point in the year, but that can be at any day appointed for. So we can count some material in February, others in April and so on. A single material can be counted on a single date. This type of inventory is mainly utilized in warehouse management based warehouses, but it can be done in inventory management too.

Cycle counting This type of inventory allows us to set a period for regular intervals for physical inventory on the material level. So a fast moving and high value material can be counted four times a year while slow moving and low value material can be counted once a year. The indicator for this is set in material master in the Plant/Storage Location 1 View, in the field

CC phys. Inv. Ind. Inventory sampling Only a number of randomly selected materials are counted on the balance sheet key date, and if those materials show small enough differences, the other materials can also be considered to have a correct stock levels. Not really used that often, as it is essentially an approximation, but in some cases it can be used if material and warehouse structure imply that.

We will explore the most common – annual inventory option in the following topic.

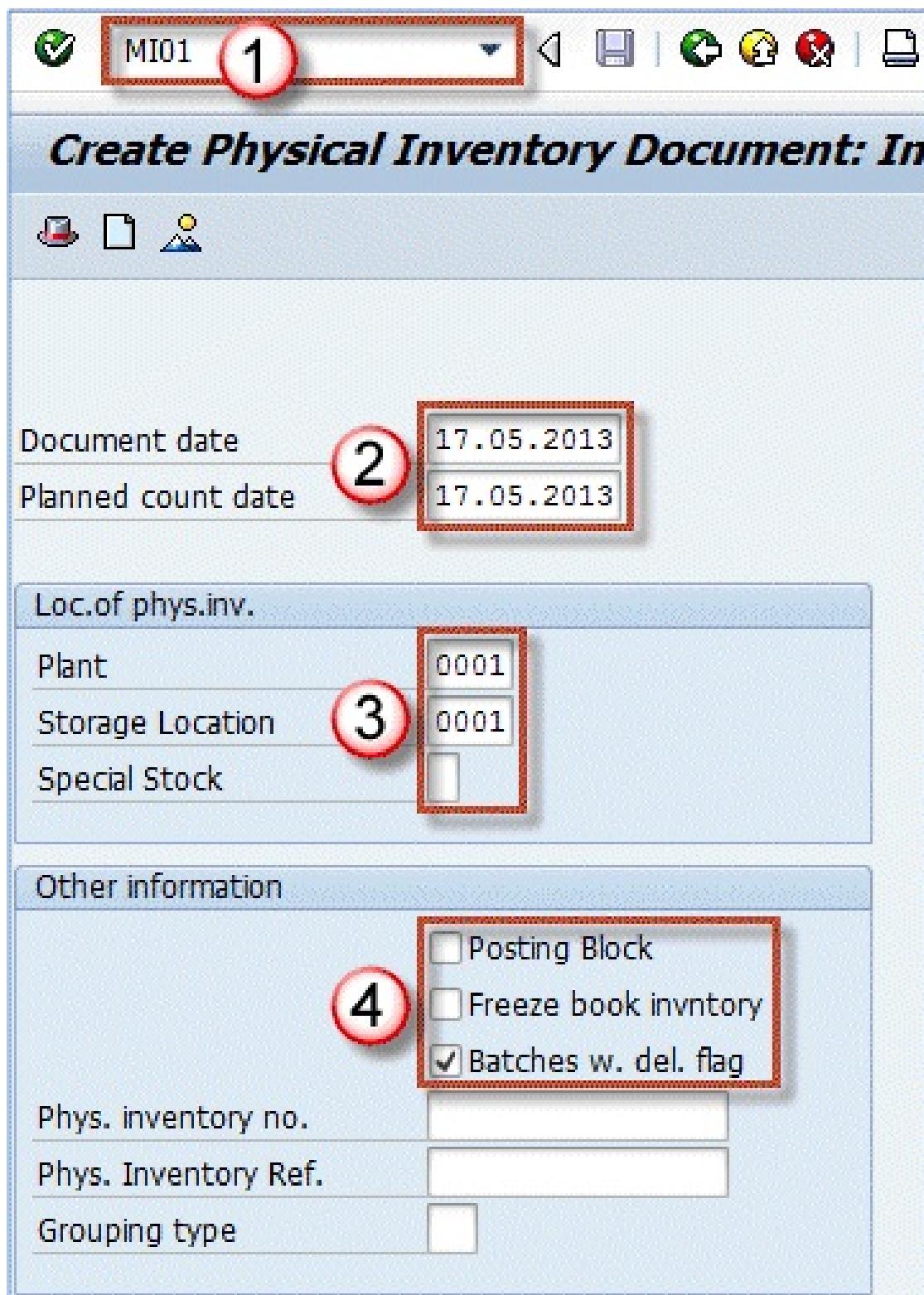
Creating Physical Inventory Document

The following procedure can be used in creating and processing of the physical inventory document.

Step 1)

1. Execute the transaction **MI01**.
2. Enter document date and planned date for counting (leave the default for today).
3. Enter Plant/Storage location/Special stock indicator.
4. Choose if you want Posting Block (if there is a possibility that someone will do

a posting while physical inventory is in progress enable this – material level), Freeze book inventory (current book inventory balance will be recorded in the physical inventory document if this option is enabled), and if you want to count batches with deletion flag (self explanatory). Press **ENTER**.



Step 2)

1. Enter the material number(s) you want to include in this physical inventory document.
2. Save the transaction data.

Create Physical Inventory Document: New Items

Deletion Indicator Other Phys. Inventory Doc.

Plant 0001 Werk 0001
Stor. Loc. 0001 Lager 0001

Item	Material	Material Description	Batch	STy	AUn	BD	Del
1	10599999			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2				1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3				1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4				1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

You will be informed of the newly created physical inventory document number.

Physical inventory document 100001580 created

Step 3

Optional step.

1. Execute the transaction **MI02** to make changes to the document (if needed).
2. Double click the item if you want to check if the counting has already been done.ž
3. If you need to delete the document, you can set the deletion indicator.

MI02 1

Change Physical Inventory Document 100001580 : Collect.

Deletion Indicator Physical Inventory History Other Phys. Inventory Doc.

Plant 0001 Werk 0001
Stor. Loc. 0001 Lager 0001

Item	Material	Material Description	Batch	STy	AUn	Del
1	10599999	LCD TV 40"		1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Step 4

Optional step.

1. You can see in the item level that our material has not yet been counted.

 **Display Physical Inventory History 100001580 / 001**

◀ ▶ Other Item... Display Material Document

Material	10599999	LCD TV 40"
Location of phys.inv.		
Plant	0001	Werk 0001
Stor. Location	0001	Lager 0001
Stock type	Warehouse	
Promotions		
Phys.inv.status	Not yet counted	

Step 5)

Optional step.

1. On header level, you can edit the data entered during the creation of the physical inventory document.

Other Phys. Inventory Doc.

Loc.of phys.inv.			
Plant	0001 Werk 0001		
Storage Location	0001 Lager 0001		
Special Stock	<input type="checkbox"/>		
Date and status			
Planned count date	17.05.2013	Posting period	0
Count date	<input type="text"/>	Count status	<input type="checkbox"/>
Posting Date	<input type="text"/>	Adjustment status	<input type="checkbox"/>
Document Date	17.05.2013	"Delete" status	<input type="checkbox"/>
Created by	MSUNDIC		
Other fields			
<input checked="" type="checkbox"/> Posting Block			
<input type="checkbox"/> Freeze book inventory			
Trans./Event Type	IB Physical Inventory Document		
Phys. inventory number	<input type="text"/>		
Phys. inventory ref.	<input type="text"/>		
Grouping type	<input type="checkbox"/>		
Grouping criterion	<input type="text"/>		

You are now finished with creating (and changing the physical inventory document). You can display the document with **MI03** transaction code.

Entering the Counting Results

In the following topic, I will show you how you can enter the counting results in the physical inventory document.

The process is fairly easy, but it needs to be accurately executed because the error in entering the counting results in poor stock balances later. So, there is high need that the counting process as well as entering process both be accurate.

Step 1)

1. Execute the transaction code MI04.
2. Enter physical document number and fiscal year.
3. Enter the counting date if it differs from the one suggested.
4. Enter the variance percentage. This means that if you had 100 pcs on stock before the physical inventory process, and you enter 107 pieces as a counting result, you will be informed with a warning message of the difference

between the previous stock quantity and the counted quantity.

Press **ENTER**.

The screenshot shows the SAP MI04 'Enter Inventory Count: Initial Screen'. The interface is a standard SAP dialog box with a toolbar at the top containing icons for checkmark, status, and navigation. The main title is 'Enter Inventory Count: Initial Screen'. Below it is a subtitle 'Other Count'. The form is divided into several sections:

- Section 1:** Phys. Inventory Doc. (Value: 100001580)
- Section 2:** Fiscal Year (Value: 2013)
- Section 3:** Date (Section Title: Date, Value: Count Date: 17.05.2013)
- Section 4:** Other Information (Section Title: Other Information, Value: Variance in %: 7)

Step 2)

1. Enter the quantity that is counted for this material.
2. Press **ENTER**.

The screenshot shows the SAP Enter Inventory Count transaction (100001580) in Collect Processing mode. The top bar includes icons for physical inventory history, set zero count, and other count. The plant is set to 0001 Werk 0001 and the storage location to 0001 Lager 0001. The items section displays a single material entry: Material 10599999 (LCD TV 40") with a quantity of 140. A red circle highlights the quantity '140' in the 'Quantity' column, which is circled in red. A warning message at the bottom left states: "Qty counted for mat. 10599999 differs from book inv. bal. by 20,000 PCS".

Item	Material	Batch	Sales Value	Quantity	UnE	ZC
Material Description			STY	Quantity	SKU	
1	10599999			140	PCS	<input type="checkbox"/>
LCD TV 40"				1	140	PCS

You will be informed that there is a quantity difference of 20 pcs, if you haven't made a mistake while entering the quantity, you can bypass the warning by pressing ENTER. If you made a mistake while entering the quantity, you can correct the entry (124 pcs in my case) and hit ENTER again.

Qty counted for mat. 10599999 differs from book inv. bal. by 20,000 PCS

If you get the warning message, and you think that there might be a mistake in the counting process, you can recount the item again and correct the results (check out **MI05** transaction code, and **MI11** if needed).

After I have corrected my entry to 124 pcs, I will **save the transaction data**.

Posting the Differences

After you have possibly recounted and reentered quantity information for problematic materials, you can post the differences by using the transaction **MI07**.

Step 1)

1. Execute the transaction **MI07**.
2. Enter your physical inventory and fiscal year.
3. Enter posting date. Goods posting will be done according to this date. Some companies use 31.12. In the annual physical inventory as the last day of fiscal year.
4. You can use the threshold value to enter the maximum allowed differences value in local currency. If you don't want a limit leave this field blank. In order for this to work, materials need to have the standard or variable price maintained.
5. Press **ENTER**.

The screenshot shows the SAP Post Inventory Difference: Initial Screen. The interface includes a toolbar with icons for checkmark, selection screen, other difference, and navigation. The main area has tabs for Selection Screen and Other Difference. The current tab is Selection Screen.

Phys. Inventory Doc. (1) **Fiscal Year** (2)

Date

Posting Date (3)

Other Information

Threshold Value (4)

Step 2)

1. You can see the difference quantity. This means that we have found 4 pieces more than it was previously stated in the system.
2. Value isn't shown as our controlling/accounting department didn't yet release the prices for this material. **This needs to be done in a production environment. You cannot post a difference of 4 pieces with the respective value of 0,00 Eur.**

Post Inventory Difference 100001580: Selection Screen

	Position...	Physical Inventory History	Other Difference				
Plant	0001	Werk 0001					
Stor. Loc.	0001	Lager 0001					
Items							
Item	Material	Batch	SI	Difference qty	BUn	Difference Amnt	Reas.
						Diff. Sales Value	
<input checked="" type="checkbox"/>	1	10599999		1	4,000	PCS	0,00
						0,00	

We can see that our posting is done by creating the resulting material document **4900547510**.

Diffs in phys. inv. doc. 100001580 posted with m. doc. 4900547510

Step 3

Optional.

We can check the material document in **MB03**.

1. We can see a quantity of 4 pcs in the material document.
2. Movement type used for goods receipt from physical inventory difference posting is 701.

Display Material Document 4900547510 : Overview

	Details from Item	Material	Accounting Documents...							
Posting Date	17.05.2013	Name	MSUNDIC							
Items										
Item	Quantity	EUn	Material	Plnt	SLoc	Batch	Re	MvT	S	S
		BUn	Material Description			Reserv.No.	Item	FIs		
1	4	PCS	10599999	0001	0001		2	701	+	
							1	LCD TV 40"		

This means that 4 pieces are added to the inventory.

For a reference of standard movement types, used for physical inventory, see the below table.

701	GR phys.inv.: whse
702	GI phys.inv.: whse
703	GR phys.inv: QI
704	GI phys.inv: QI
707	GR phys.inv.:blocked
708	GI phys.inv.:blocked

- **701** – Goods Receipt for unrestricted stock
- **702** – Goods Issue for unrestricted stock
- **703** – Goods Receipt for quality inspection stock
- **704** – Goods Issue for quality inspection stock
- **707** – Goods Receipt for blocked stock
- **708** – Goods Issue for blocked stock

You are done with physical inventory. You can now continue with regular warehouse activities.

Special stock and Special procurement

In some cases, logistic processes require special procurement types to be used:

- Consignment
- Subcontracting
- Stock Transfer Using Stock Transport Order
- Third-Party Processing
- Returnable Transport Packaging
- Pipeline Handling

For the purposes of the special procurement types, there are special stock types.

S Special stock descr.	
E	Orders on hand
K	Consignment (vendor)
M	Ret.trans.pkg vendor
O	Parts prov. vendor
P	Pipeline material
Q	Project stock
V	Ret. pkg w. customer
W	Consignment (cust.)
Y	Shipping unit (whse)

Item categories you can use in purchasing documents.

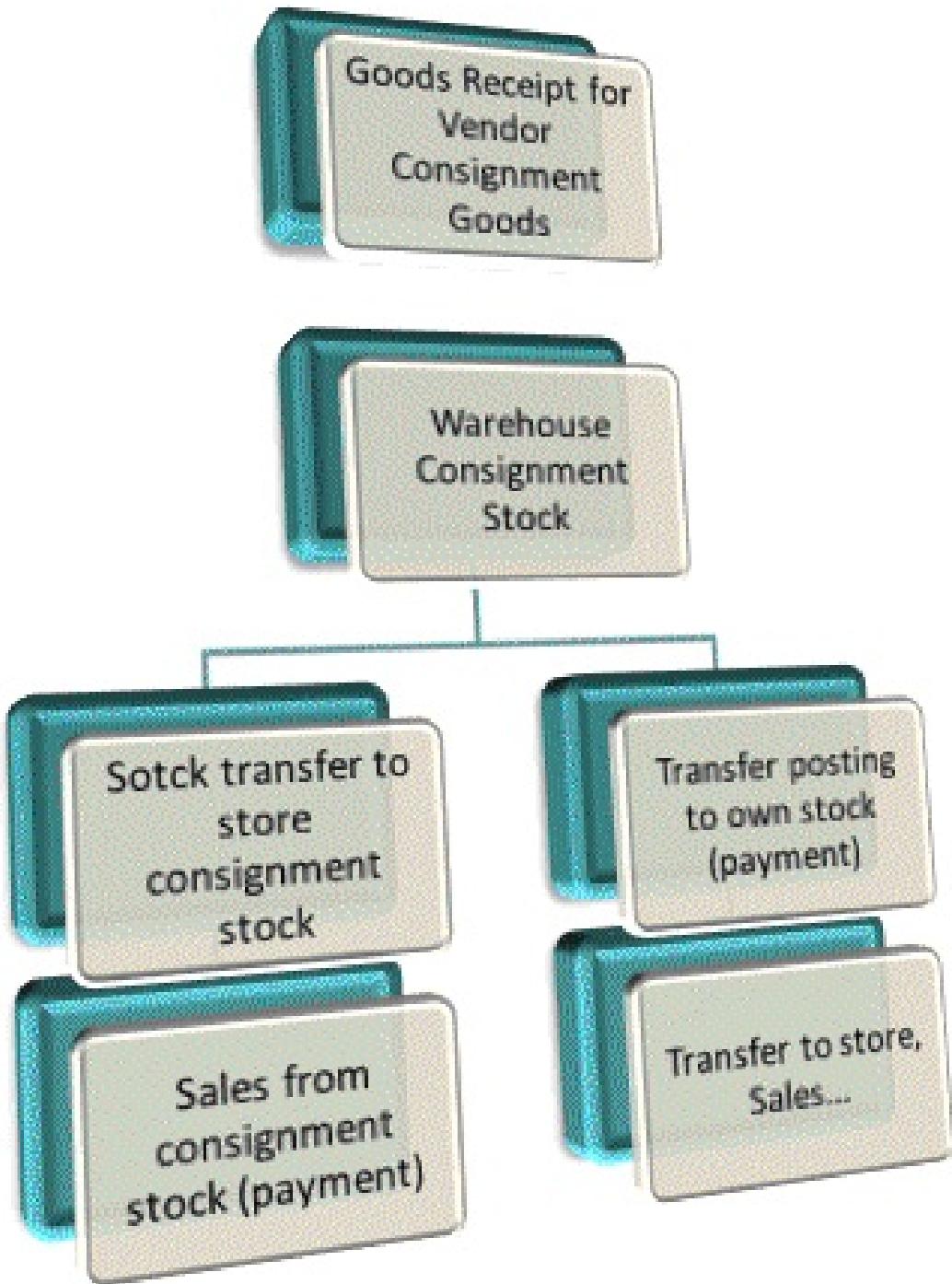
- Standard**
- B Limit
- K Consignment
- L Subcontracting
- S Third-party
- T Text
- D Service

We will see how these special procurement types and special stock types are used in the following processes.

Consignment

Consignment means that the goods procured are still in vendors ownership, but our company is keeping the material on stock and is able to sell it directly. Goods become the property of our company only in the case of consuming.

You can see two possible consignment scenarios / processes in the diagram below.



In both cases, the base of the process is a goods receipt for vendor consignment goods. After that, we will have consignment goods in our warehouse. If we want to sell the goods from consignment stock, we can do a stock transfer from warehouse to store consignment stock and sell directly from consignment stock.

If on the other hand, we choose not to keep the goods as consignment stock, we can do a transfer posting to own stock. Afterwards, we can send it to our store and sell it as own stock.

In the consignment process, we should create a purchase info record for the vendor/material combination, in order to predefined some information later used in

the processes.

In the system, receiving the consignment stock is done in a few simple steps. **RECEIVING CONSIGNMENT GOODS**

Step 1)

Create a purchase order for the material using **ME21N** transaction.

1. Enter item category **K** - consignment goods.

The screenshot shows the SAP ME21N Purchase Order header screen. The item category field (A) has a value of 'K' highlighted with a red circle. The vendor field is set to 'VENDOR1 Vendor 1'. The document date is '17.05.2013'. The table below shows one line item: movement type '101', material '10599999', short text 'LCD TV 40''.

S	Itm	A	I	Material	Short Text	PO Quantity	O.	Delv. Date	Net Price	Cu...
10	1	K	10599999	LCD TV 40"		10	PAL	D 21.05.2013		EUR
										EUR

Step 2)

Post goods receipt in **MIGO** transaction.

1. You can see that movement type is **101**, and the special stock indicator is **K** - consignment stock (vendor).
2. Check items as OK, and Post.

The screenshot shows the SAP MIGO Goods Receipt screen. The general tab is selected. The document date is '17.05.2013'. The vendor is 'Vendor 1'. The table below shows one line item: movement type '101', material 'LCD TV 40'', quantity '10', storage location 'Lager 0001', and profit center 'SAP-DU'.

Line	Mat. Short Text	O.	Qty in UnE	E..	SLoc	Profit
1	LCD TV 40"	10		PAL	Lager 0001	SAP-DU

At the bottom, the movement type '101' and stock indicator 'K' are highlighted with a red circle. The 'GR for consgt stock' note is also visible.

The 'Purchase Order Data' tab is selected at the bottom. It shows the movement type '101', stock indicator 'K', vendor 'Vendor 1', plant 'Werk 0001', storage location 'Lager 0001', and other fields.

After you have posted the goods receipt for vendor consignment goods, you can see the stock overview for the material has changed.

There are 120 pcs now in the Vendor Consignment row, as unrestricted.

Selection			
Material	10599999	LCD TV 40"	
Material Type	FERT	Finished Product	
Unit of Measure	PCS	Base Unit of Measure	PCS
Stock Overview			
Detailed Display			
Client/Company Code/Plant/Storage Location/Batch/Special Stock	Unrestricted use	Qual. inspection	Reserved
Full	124,000	24,000	20,000
0001 SAP A.G.	124,000	24,000	20,000
0001 Werk 0001	124,000	24,000	20,000
0001 Lager 0001	124,000	24,000	20,000
Vendor Consignment	120,000		

Step 3)

Branching into two different scenarios from the process diagram.

- From this point, we can create a stock transfer to a store storage location with MIGO transaction. We can then sell the goods from the consignment stock (payment obligation is generated at the point of sales).
- In the second scenario, we can create a transfer posting to own stock (payment obligation at this point). Later on we can do whatever we like with the goods.

Let's say we have created a transfer posting to own stock upon goods arrival. We can do that by using **MB1B** with special stock type indicator **K**, and movement type **411**.

We can see afterwards that our stock level is 244 pcs all on 0001 unrestricted. Our 120 pcs were transferred from consignment to own stock.

Selection			
Material	10599999	LCD TV 40"	
Material Type	FERT	Finished Product	
Unit of Measure	PCS	Base Unit of Measure	PCS
Stock Overview			
			
Client/Company Code/Plant/Storage Location/Batch/Special Stock			Unrestricted use
▼  Full <ul style="list-style-type: none"> ▼  0001 SAP A.G. ▼  0001 Werk 0001 <ul style="list-style-type: none"> ·  0001 Lager 0001 			244,000
			244,000
			244,000
			244,000

Step 4)

We are not creating an invoice using MIRO transaction for consignment goods. Instead, liabilities are settled in **MRKO** transaction for the appropriate period.

1. Execute **MRKO** transaction.
2. Enter **Company Code and Vendor**.
3. **Enter the date range** (you can use document date, per your preferences).
4. Choose special procurement type you want to settle for. **Consignment**.
5. Choose if you want to display available document or settle. Choose **Display**.
6. Show only **withdrawals not settled** or only settled withdrawals, or both. You can also restrict the displayed/settled records by material. **Execute**.

MRKO 1

Consignment and Pipeline Settlement

Selection

Company Code	0001	to	
Vendor	VENDOR1	to	
Plant		to	
Material		to	
Document Date		to	
Posting Date	17.05.2013	to	
Material Document		to	

Consignment
 Pipeline

Display
 Settle

Withdrawals not settled
 Settled withdrawals

Document Number to
Layout

Step 5)

- First we will choose to display the available documents for our selection.
- We can see that the document is **Not settled**.

Consignment and Pipeline Settlement

CoCode	Vendor	Mat. Doc.	MatYr	Item	Doc. Date	Plant	Material	Qty Withdr	Un	Amount	Crcy	Info
0001	VENDOR1	4900547511	2013	1	17.05.2013	0001	10599999	10	PAL	28.000,00	EUR	Not settled

- Go back to the initial screen and choose **Settle** instead of Display. **Execute**.
- You can now see the message that a document 5100000001 was created.

Consignment and Pipeline Settlement																
CoCode		Vendor	Mat. Doc.	MatYr	Item	Doc. Date	Plant	Material	Qty Withdr	Un	Amount	Crcy	DocumentNo	Year	Item	Information text
0001	VENDOR1	4900547511	2013	1	17.05.2013	0001	10599999	10	PAL	28.000,00	EUR	5100000001	2013	2	Document created	

- Go back and choose to display documents, and choose to see Settled withdrawals.
- Now there is a record matching your request. You can see that the status is now **Settled**.

Consignment and Pipeline Settlement																
CoCode		Vendor	Mat. Doc.	MatYr	Item	Doc. Date	Plant	Material	Qty Withdr	Un	Amount	Crcy	DocumentNo	Year	Item	Information text
0001	VENDOR1	4900547511	2013	1	17.05.2013	0001	10599999	10	PAL	28.000,00	EUR	5100000001	2013	2	Document created	

This completes the process for consignment stock.

Stock Transport Order

In stock transfer process, goods are procured and supplied within a company. One plant orders the goods from another plant (they are called the receiving plant/issuing plant).

We can use a special type of purchase order - the stock transport order. The delivery process can be done either in Inventory Management or in the shipping component of logistics execution.



Step 1) Create a purchase order using **ME21N**.

1. Choose document type **UB - Stock Transp. Order**.
2. Choose Supplying Plant – 001.
3. Choose Receiving Plants Purchasing organization – 0002.
4. Purchasing group and Company Code.
5. In the item overview screen, enter material number and quantity.
6. Choose the receiving plant and Storage Location.

Save the document.

Stock Transp. Order created under the number 4500018394

Step 2) Post goods issue from the issuing plant using MIGO transaction.

1. Choose **A07 – Goods Issue**.
2. Choose **R01 – Purchase Order**.
3. Enter the storage location from which goods are being issued.
4. Save the transaction – Post goods Issue.

Line	Mat. Short Text	O.	Qty in UnE	E.	SLoc	Batch
1	LCD TV 40"		12		PCS	Lager 0001

After posting, you will get a material document.



Material document 4900547512 posted

Step 3) Do a goods receipt to a receiving plant for the stock transfer order - in MIGO.

1. Choose **A01 – Goods Receipt**.
2. Choose **R01 – Purchase Order**.

Post the Goods Receipt.

The screenshot shows the SAP MIGO interface for posting a goods receipt. The top navigation bar includes tabs for 'A01 Goods Receipt' and 'R01 Purchase Order'. The main area is divided into two sections: 'General' and 'Vendor'. In the 'General' section, the 'Document Date' is set to 17.05.2013, 'Delivery Note' is empty, and 'HeaderText' is set to 'Waldorf 1'. The 'Posting Date' is also 17.05.2013, 'Bill of Lading' is empty, and 'HeaderText' is empty. There is a note about '3 Collective Slip'. The 'Purchase Order Data' section shows a single line item: Line 1, Material Short Text 'LCD TV 40"', Quantity 'O. Qty in UnE' 12, Storage Location 'E.. SLoc' 'PCS Obersd 002', and Profit center 'Profit' 'SAP-DU'. Below this is a toolbar with icons for saving, deleting, and navigating. The bottom section, 'Where', contains fields for Movement Type (101), Stock type (Unrestricted use), Plant (Werk 0002), Storage Location (Obersd 002), Goods recipient, and Unloading Point.

Now the stock transfer from plant to plant is done.



Material document 5000023575 posted

You can see the plant stock now. Obersdorf plant now has 12 pcs of material 10599999.

Selection			
Material	10599999	LCD TV 40"	
Material Type	FERT	Finished Product	
Unit of Measure	PCS	Base Unit of Measure	PCS
Stock Overview			
	Detailed Display		
Client/Company Code/Plant/Storage Location/Batch/Special Stock			Unrestricted use
▼ Full			12,000
▼ 0001 SAP A.G.			12,000
▼ 0002 Werk 0002			12,000
• 0002 Obersd 002			12,000

Stock transport order can also be done using the delivery process. You are able to create an outbound delivery based on your purchase order (stock transport order) in transaction **VL10B**. Then you can post the goods issue using the **VL02N** transaction (change outbound delivery). Finally you can do a PGR (post goods receipt) for delivery from the receiving plant.

Subcontracting

In subcontracting, you give components to a vendor from which a product is produced. The product is then ordered by your company through a purchase order. The components required by the vendor to manufacture the ordered product are imported in the purchase order through the BoM (Bill of Materials), and they are provided to the vendor. After the contractor has produced the finished product, we can post the goods receipt.

Step 1)

Create a standard purchase order for the material that has a BOM maintained.

1. Create a PO with item category **L**.
2. Enter the storage location where the material should be placed upon goods receipt.

NB Standard PO		Vendor		VENDOR1 Vendor 1		Doc. date		17.05.2013		A							
Header		S	Itm	A	I	Material	Short Text	PO Quantity	O.	Delv. Date	Net Price	Cu...	Per	O.	Matl Group	PInt	Stor. Loca
10		L	10599999	LCD TV 40"				10PAL	D	21.05.2013	2.750,00	EUR	1	PAL	Material gro...	Werk 0001	Lager 0001
		1										EUR					
												EUR					
												EUR					
												EUR					
												EUR					

Step 2)

On the Material Data tab, click the Components or Explode BOM icon.

The screenshot shows the SAP Material Data screen. The 'Material Data' tab is selected, indicated by a red circle with the number 1. In the top right corner, there are two icons: 'Components' (a blue square with a white gear) and 'Explode BOM' (a blue square with a white 3D cube). The 'Explode BOM' icon is also highlighted with a red circle and the number 2. Other tabs like 'Quantities/Weights', 'Delivery Schedule', etc., are visible but not selected.

On the component screen, enter storage location from which the components should be issued.

I have created a fake BoM for our material (we sure can't create LCD TV 40" from two components called semiconductors and plastics), but it's enough to serve the purpose (you can create a BoM in **CS01** transaction if you don't have it for your test material).

The screenshot shows the 'Processing Components: Component Overview' screen. At the top, there are buttons for 'Collective entry' and 'Detailed entry'. Below that, material details are listed: Material (10599999), Plant (0001), Quantity (120,000), Description (LCD TV 40"), Release Date (17.05.2013), and Delivery date (21.05.2013). The 'Component Overview' table lists two components: Semiconductors and Plastics, both required 120 PCS each. The table includes columns for Material, Description, Requirement qty, U., C, P..., P..., Supply A..., Reqmt D..., I..., and Release Date.

Material	Description	Requirement qty	U.	C	P...	P...	Supply A...	Reqmt D...	I...
30000180	Semiconductors	120	PCS	<input type="checkbox"/>	0001	0001		17.05.2013	0010 L
30000181	Plastics	120	PCS	<input type="checkbox"/>	0001	0001		17.05.2013	0020 L

Save the PO.



Standard PO 4500018399 changed

If your PO needs to be released, release it by using **ME29N**.

Step 3)

In stock monitoring transaction, we will provide the components for vendor.

1. Execute the transaction ME2O.
2. Enter Vendor.
3. Enter Plant. **Execute**.

me2o 1

SC Stock Monitoring for Vendor

Selection Criteria

Vendor	2 VENDOR1	to	<input type="text"/>	
Components Provided		to	<input type="text"/>	
Assembly		to	<input type="text"/>	
Plant	3 0001	to	<input type="text"/>	
Requirement Date		to	<input type="text"/>	

With Reqs from SC Requisns
 W. Ext. Receipts from Requisns
 With Ext. Receipts from POs

List Output

Group by Batches
 Only SC Stocks with Shortage
 Display Zero Lines

Step 4)

You will get a list of open item for transfer towards the vendor. You can see the components from our purchase order.

1. Select the components (click the boxes next to components material numbers).
2. Post goods issue.

SC Stock Monitoring for Vendor

2

Vendor	VENDOR1	Vendor 1	Wien	
Material Date	Plnt Short Text Document	Batch	Batch	SC Stock Req/Receipt Qty Available SC Stock
30000180 17.05.2013	0001 Semiconductors Requirements via SC Orders 4500018399 00010	120 PCS	120 PCS	0 PCS 120- PCS
1 30000181 17.05.2013	0001 Plastics Requirements via SC Orders 4500018399 00010	120 PCS	120 PCS	0 PCS 120- PCS

Step 5)

You will be prompted to confirm the items being PGI'd.

Just confirm the right storage location and quantity. Do that for all of the components.

Post Goods Issue

Vendor	VENDOR1
Material	30000180
Plant	0001
Movement Type	541
Stor. Location	0001
Batch	
Quantity	120 PCS

Step 6)

You should see this kind of screen confirming that your PGI was done successfully for 2 items.

GI Posting for SC Stock: Display messages

Typ	Message text
	2 item(s) posted

0 0 0 0 1

Step 7)

The next screen should look like this.

Material Date	Plnt Short Text Document	Item	Deliv. Date	Batch	Batch	Regt/Receipt Qty	SC Stock Available SC Stock
30000180 17.05.2013	0001 Semiconductors Requirements via SC Orders		4500018399 00010 21.05.2013			120 PCS 120 PCS	120 PCS 0 PCS
30000181 17.05.2013	0001 Plastics Requirements via SC Orders		4500018399 00010 21.05.2013			120 PCS 120 PCS	120 PCS 0 PCS

You can see that there is a material document for the components, with movement type 541.

Items									
Item	Quantity EU			Material BU	Plnt	SLoc	Batch	Re	MvT S S
	EUn	Material	Description						
1	120	PCS	30000180 Semiconductors	0001	0001			541	-
2	120	PCS	30000180 Semiconductors	0001				541	0 +
3	120	PCS	30000181 Plastics	0001	0001			541	-
4	120	PCS	30000181 Plastics	0001				541	0 +

Step 8)

You can post a goods receipt against a purchase order to receive the finished goods from the vendor.

Header section:

A01 Goods Receipt	R01 Purchase Order	4500018399		GR
-------------------	--------------------	------------	--	----

General tab (selected):

Document Date	17.05.2013	Delivery Note		Vendor	Vendor 1
Posting Date	17.05.2013	Bill of Lading		HeaderText	
<input type="checkbox"/> <input checked="" type="checkbox"/> 3 Collective Slip					

Table view (Line items):

Line	Mat. Short Text	O.	Qty in UnE	E..	SLoc	P..
1	LCD TV 40"	<input type="checkbox"/>	10	PAL	Lager 0001	SA
<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Delete <input type="checkbox"/> Contents <input type="checkbox"/>						

Buttons below table:

--	--	--	--	--	--	--

Sub-tabs below table:

- Material
- Quantity
- Where
- Purchase Order Data
- Partner
- Account Assignment

Details section (under Purchase Order Data sub-tab):

Movement Type	101	<input type="checkbox"/> + GR goods receipt	Stock type	2 Quality inspect...
Plant	Werk 0001	0001		
Storage Location	Lager 0001	0001		

Now you have issued the components to subcontractor, received the finished product.

You could have also created an outbound delivery for the components using ME2O transaction, and then posting goods issue through VL02N. Most of the time this type of processing is done in subcontracting.