# Make to Order subcontracting to make order in SAP

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# Introduction

Traditional production systems produce products and stock those as inventory until they are sold (make to stock). In order to reduce inventory and increase the level of customization, some firms have designed their production systems to produce a product only after it is ordered. Such systems are referred to as make-to-order. Make-to-order systems are not appropriate for all types of products, and the make-to-order versus make-to-stock decision must be weighted carefully.

#### Make-to-Order

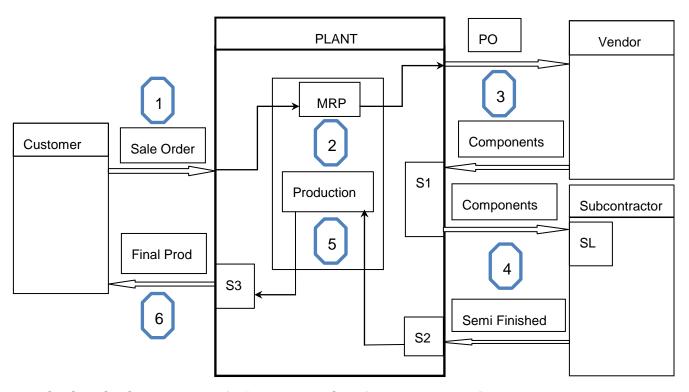
Make-to-order production is a process in which a product is individually manufactured for a particular customer. Stock keeping is not usually carried out for products that are made to order. The primary benefits of this process are the ability to track the progress for the sales order and the flexibility to offer to the customer the products to meet their specific requirements. The benefit also lies in tracking the costs incurred in the servicing of the sales order in the manufacturing of the goods and the ability of arrive at a profitability of the sales order.

This Business Scenario Map shows how enterprises work together to complete a make to order scenario. The planning and manufacturing process is initiated after receiving the sales orders from the customer.. There is a constant link between the sales order and the production order. This leads to the tracking of the progress on the customer order. The material stock is seen as customer stock.

#### Make-to-Stock

In make-to-stock production scenario stock is produced independently of orders because you want to provide your customers immediately with goods from that stock later on. You might even want to produce goods without having sales orders, if you expect that there might be customer demand in the future. This means that make-to-stock strategies can support a very close customer-vendor relationship because your objective here is to provide your customers with goods from your stock as quickly as possible.

#### **MTO Business Scenario - Diagrammatical Representation**



S1, S2 & S3: Storage location for Raw material, Semi finished material & final products respectively

SL: Storage Location for Subcontracting Vendor

# **Major Steps**

1 - Sales activity: Sales order is created with reference to customer order (customer PO)

2 - Planning activity: Planned orders are generated as output of Material Requirement Planning (MRP)

With reference to Sales order

3 - Ext. procurement: Required components procured externally using purchase order (PO)

4 - Subcontracting: Procured components send to the subcontracting vendor & received semi finished

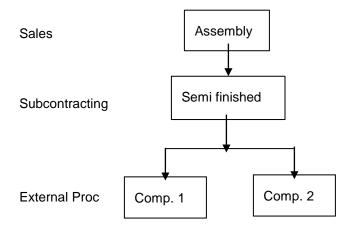
product

5 - Production: Semi finished product processed internally and gives output as final

product/Assembly

6 - Delivery activity: Delivers final product/Assembly to the customer against Sale order.

#### **Bill of Materials**



- Components (comp.1 & comp. 2) procured externally.
- Semi finished material received from subcontracting vendor by providing components
- Assembly will be available for sales after processing semi finished material internally in production department.

# Steps in SAP

Create materials with required views - MM01

Maintain CIN master data - J1ID

Create Bill of Materials (BOM) - CS01

Create Routing to Finished material - CA01

Create sale order - VA01

Run MRP - MD50

View the planned orders created - MD04

Convert component planned order to PR (PR will show a/c assgn cat as M) - MD04

Convert semi finished planned order to PR (PR will show a/c assgt cat "M" & item cat. "L") - MD04

Convert component PR into PO for external procurement - ME21N

Goods receipt with reference to sale order - MIGO

View the stock (sale order stock) - MMBE

Create subcontract PO with reference to semi finished PR - ME21N

Maintain storage location to the subcontractor - SPRO

Transfer goods to Subcontractor (movement type 311 +E) - MB1B / MIGO

Stock will be updated Subcontract storage location under Sale order stock - MMBE

Create challan - J1IFQ

Receive goods from Subcontractor with movt type 101 (543 will be taken to the component & subcontractor storage location to be entered) - MIGO

Reconciliation of challan - J1IFQ

Complete challan – J1IF13

Convert finished material planned order to production order - MD04

Goods issue to the production with movement type 261 - MB1A / MIGO

Confirmation of Production order - CO15

Goods receipt against Production order with movement type 101 - MB31/MIGO

Order settlement for Production order - KO88

Delivery of Finished products - VL01N

#### **Create Materials**

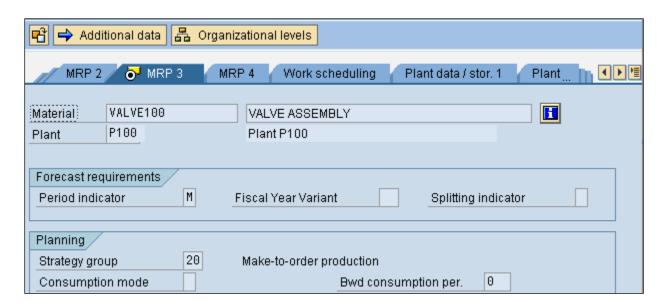
Required views & important fields mentioned for each view

VALVE100 - Finished material, material type ZHAW (for sale order)

Views: Basic data1(div & mat gr), Sales, MRP1, MRP2 (proc type E), MRP3 (Strategy group 20), MRP4 (individual/collec \_ ), Work scheduling, General Plant data/storage, Accounting, Costing

Key Point: Maintain Strategy Group as "20" in MRP3 view

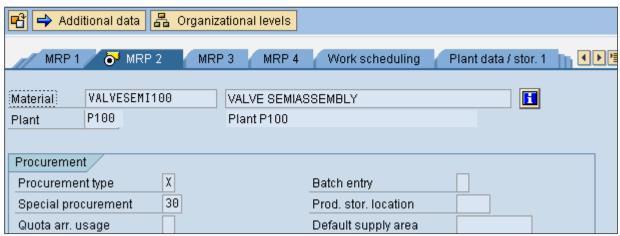
Note: No purchasing view available for material type FERT/ZHAW



VALVESEMI100 - Semi finished material, material type HALB (for subcontracting)

Views: Basic dta1 (mat gr), Purchasing, MRP1, MRP2 (Sp. procurement as 30 & proc type X) MRP3 (consumption mode 2, availability check 02), MRP4 (individual/collec. \_), Work scheduling, Plant data/storage, Accounting, Costing & No sales views

Key Point: Maintain Special procurement as "30" in MRP2 view



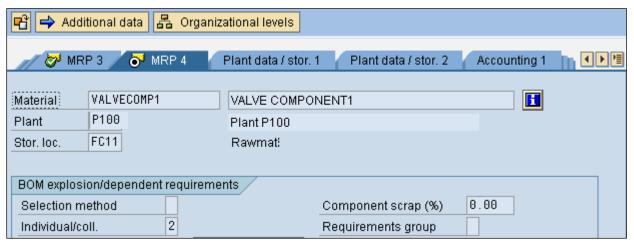
# <u>VALVECOMP</u> - Raw material/component (material type ROH)

Views: Basic dta1 (material group), Purchasing, MRP1, MRP2 (proc type F) MRP3 (consumption mode 2, availability check 02), MRP4 (individual/colle ), Plant data/stor, Accounting, Costing & No sales views



### VALVECOMP1 - Raw material/component (material type ROH)

Views: Basic dta1 (mat gr), Purchasing, MRP1, MRP2 (proc type F) MRP3 (consumption mode 2, availability check 02), MRP4 (individual/colle \_), Plant data/stor, Accounting, Costing & No sales views



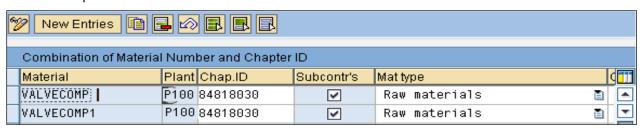
#### **CIN Master data**

Use transaction code: J1ID

Maintain material chapter ID combination to the component & semi finished material.

Select Subcontract check box to the components Maintain assessable value to the components

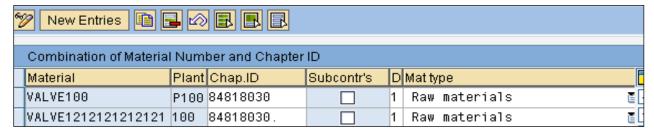
Components: - VALVECOMP & VALVECOMP1



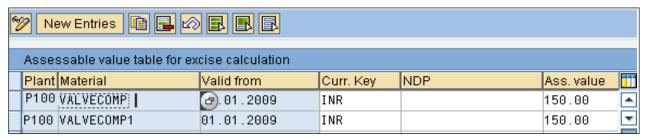
# Semi finished material: - VALVESEMI100

Combination of Material Number and Chapter ID							
	Material	Plant	Chap.ID	Subcontr's	Mat type d		
	VALVESCHECK121SV61	P100	84818030.		Raw materials	•	
	VALVESEMI100	P100	84818030		Raw materials	₹	

#### Finished material: - VALVE100



### Components: VALVECOMP & VALVECOMP1



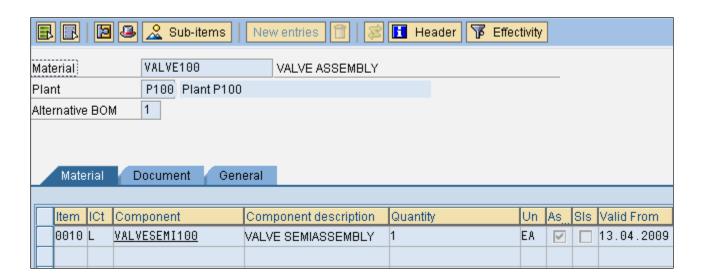
# **Create Bill of Material (BOM)**

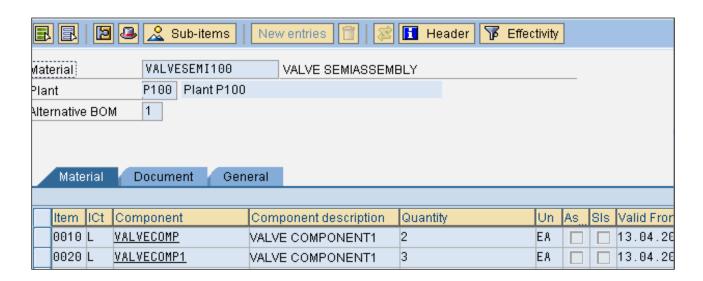
Use transaction code CS01

BOM1: VALVE100 - VALVESEMI100,

BOM2: VALVESEMI100 - VALVECOMP, VALVECOMP1

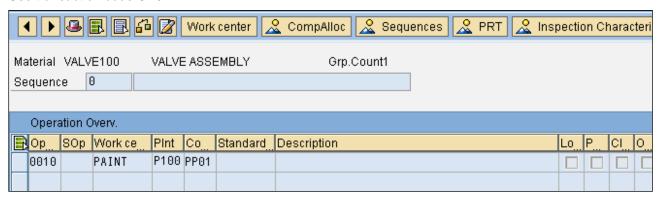
Key Point: Maintain item category as "L"





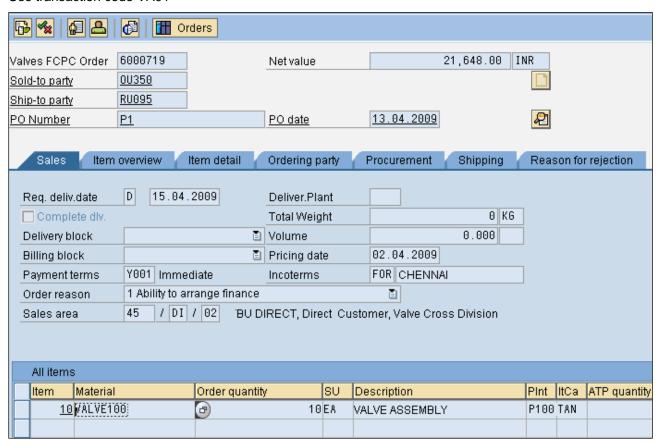
# **Create Routing to Finished material**

Use transaction code CA01



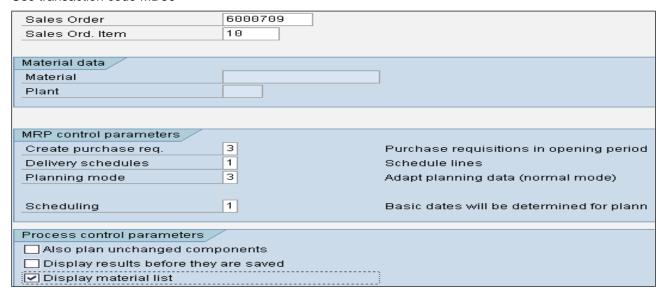
#### **Create Sale Order**

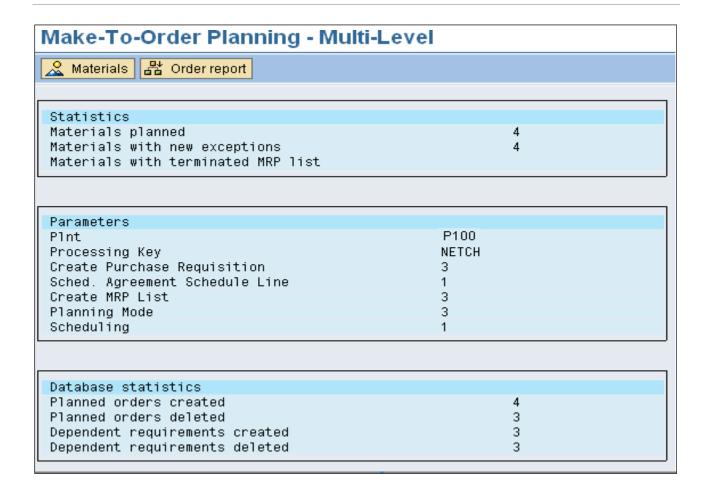
Use transaction code VA01



# Run MRP for Sale Order

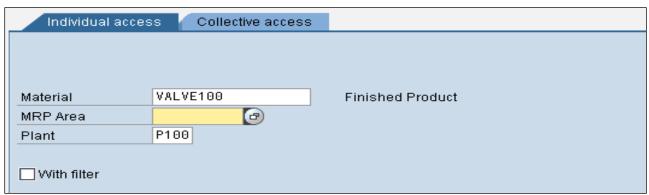
Use transaction code MD50





# **View the Planned Orders Created**

Use transaction code MD04



#### Note:

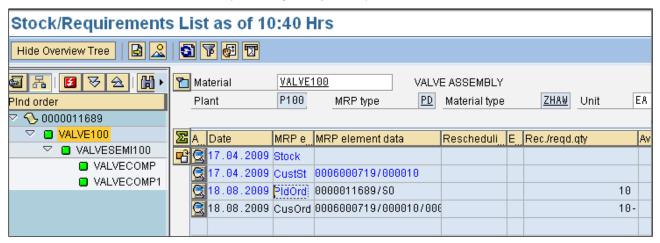
Total number of planned orders created = 4

Planned order 1 for VALVECOMP (component)

Planned order 2 for VALVECOMP1 (component)

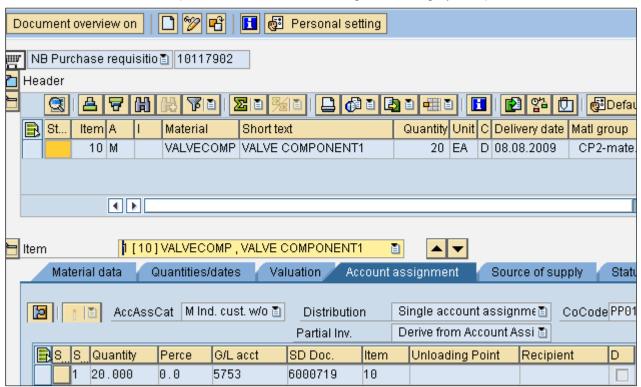
Planned order 3 for VALVESEMI100 (semifinished/subcontacting material)

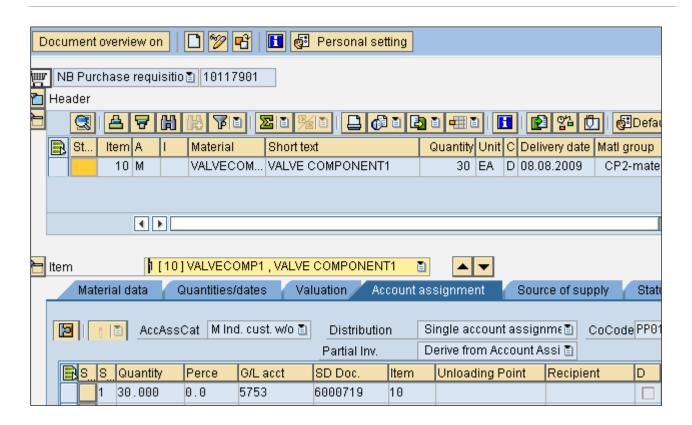
Planned order 4 for VALVE100 (assembly/final product)



# Convert "Component" Planned Order to PR

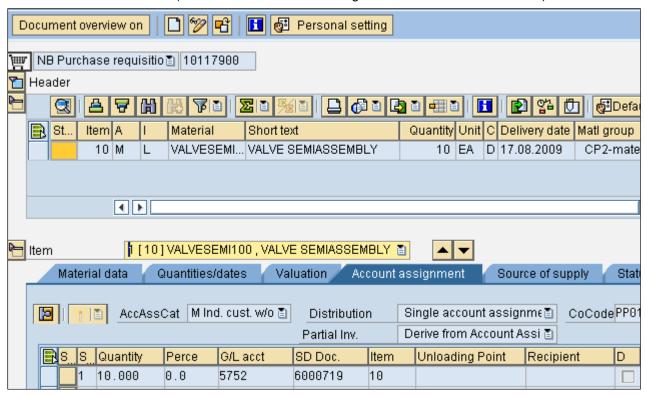
Use transaction code MD04 (Created PR contains a/c assignment category as M)





#### **Convert Semi Finished Planned Order to PR**

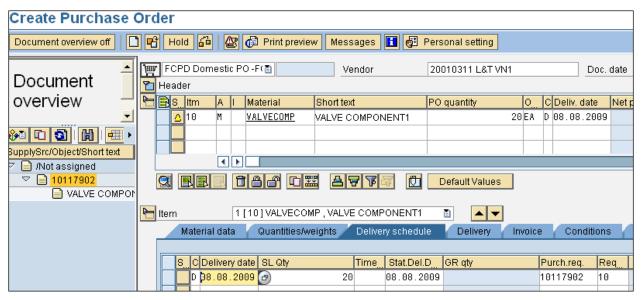
Use transaction code MD04 (Created PR contains a/c assignment cat as M & item cat as L)



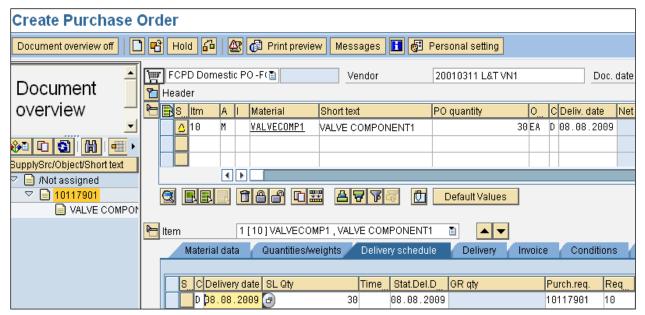
# Convert "Component" PR into PO

Use transaction code ME21N for external procurement.

PO for material VALVECOMP

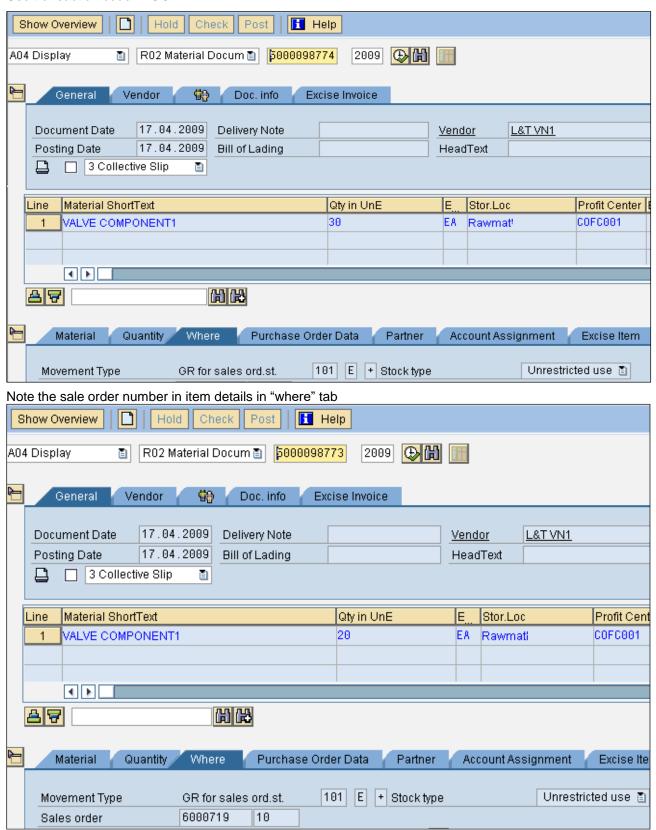


## PO for material VALVECOMP1



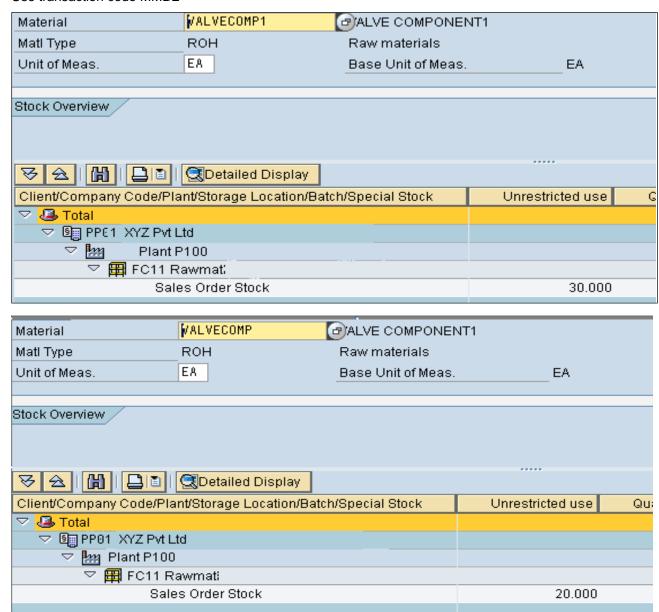
# **Goods Receipt for Components**

Use transaction code MIGO

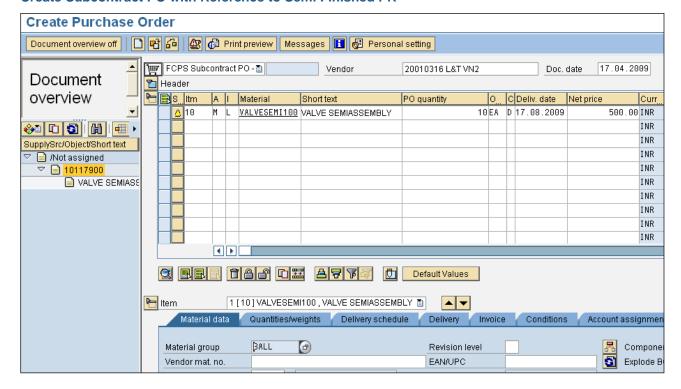


# View the Stock (sale order stock)

#### Use transaction code MMBE

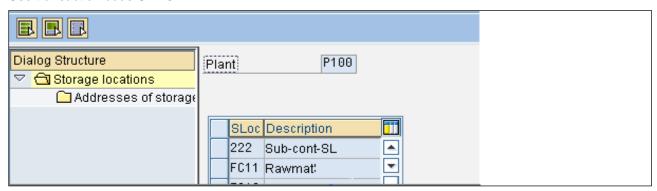


### Create Subcontract PO with Reference to Semi Finished PR



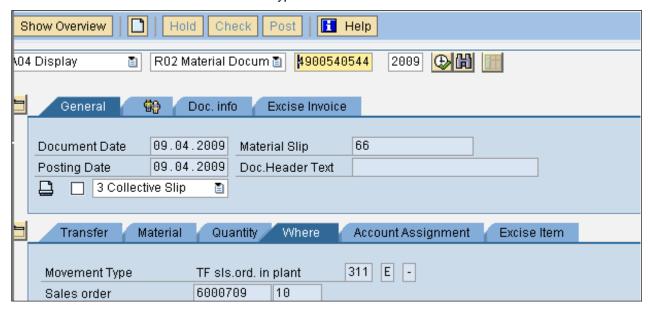
# **Maintain Storage Location to the Subcontractor**

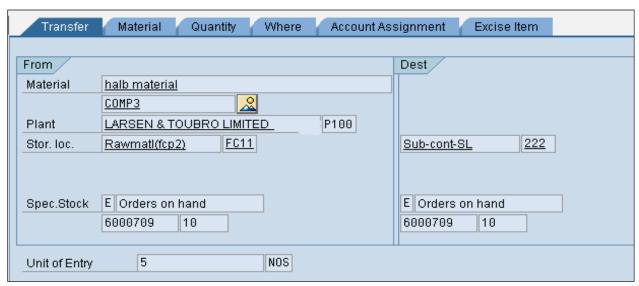
Use transaction code SPRO



# Transfer Goods/Components to Subcontractor (Subcontractor Storage Location)

Use transaction code MB1B with movement type 311 +E

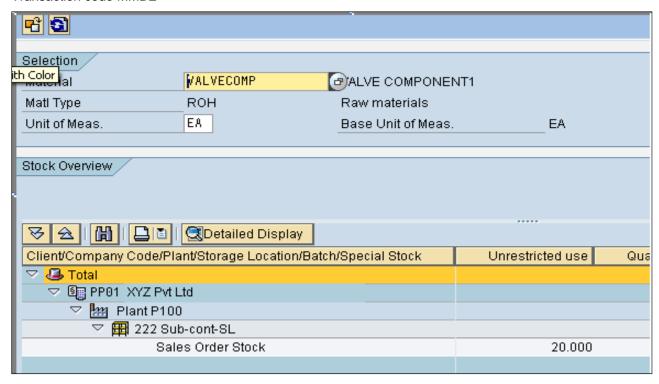


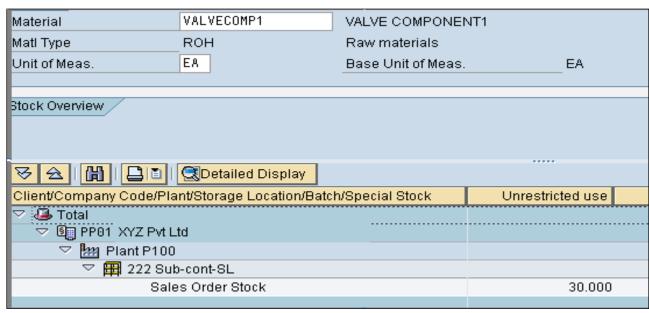


#### **Stock Overview**

Stock will be updated at subcontractor storage location under sale order stock.

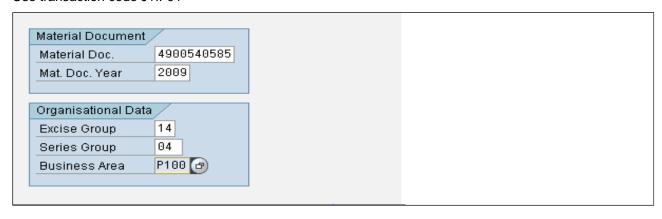
#### Transaction code MMBE

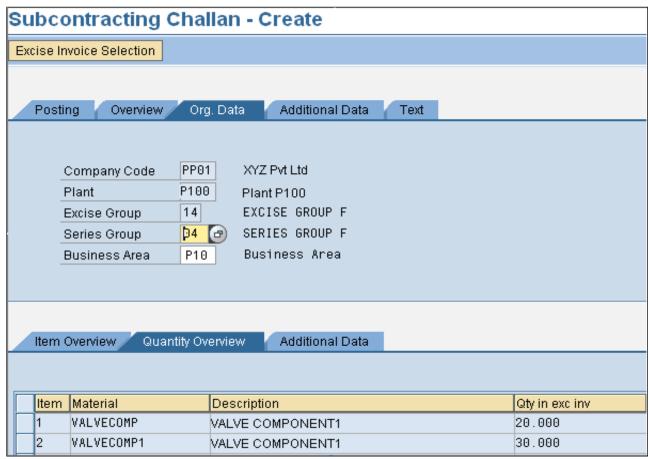




#### **Create Challan**

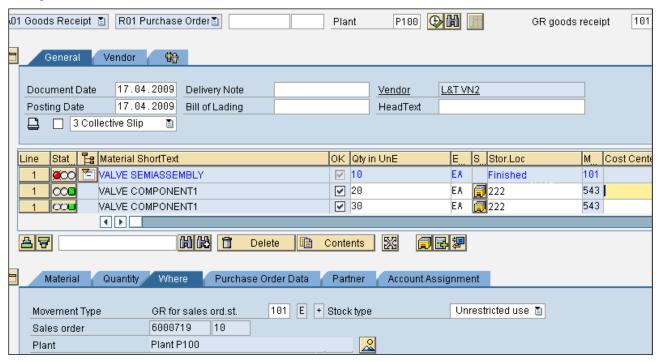
Use transaction code J1IF01





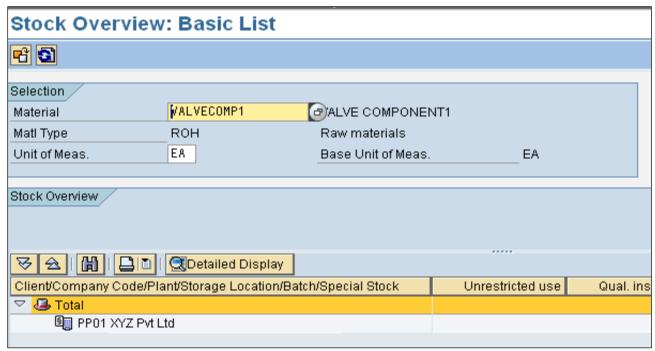
## Receive Goods (semi finished) from Subcontractor

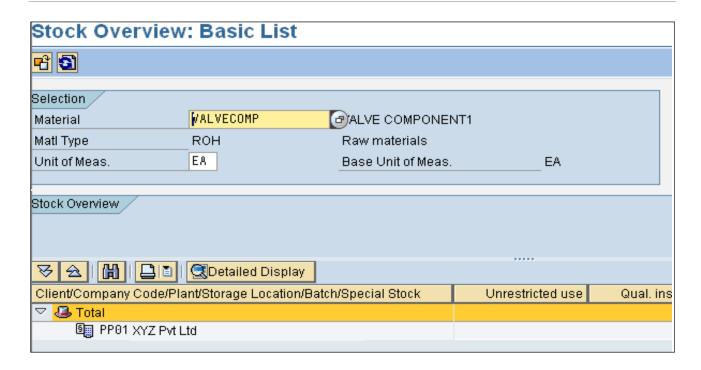
Use transaction code MIGO, with movement type 101 (543 will be taken to components), Subcontractor storage location to be entered.



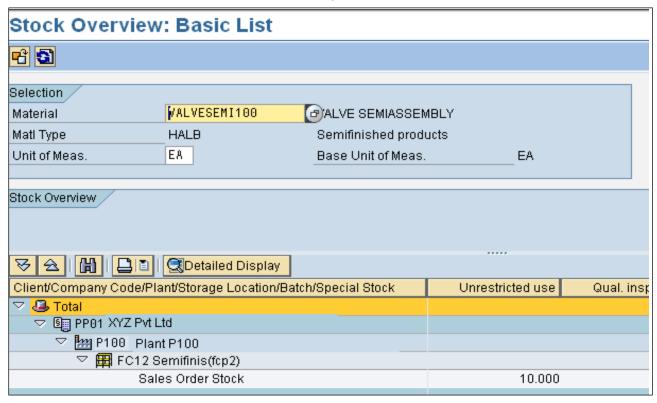
# View the Stock of Components after Goods Receipt

Stock of componets will be consumed at subcontracting storage location when semifinished goods received from subcontracting vendor.



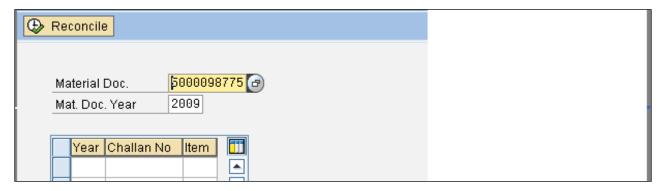


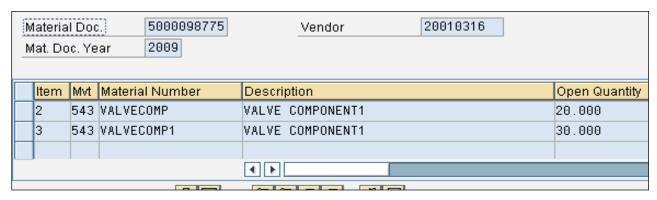
# View the Stock of Semi-Finished after Goods Receipt



#### **Reconciliation of Challan**

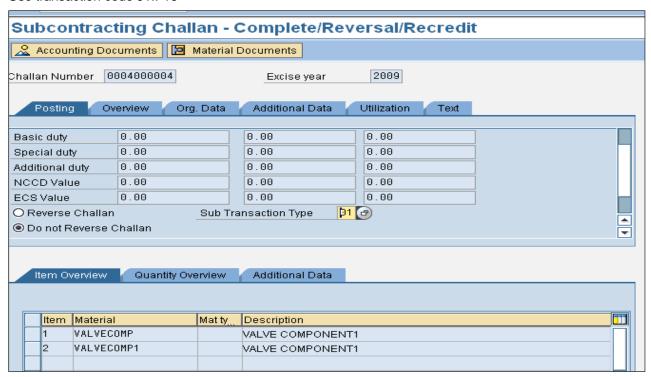
Use transaction code J1IFQ





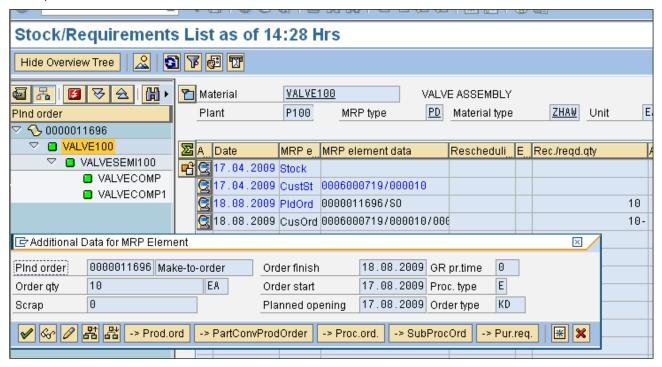
# **Complete Challan**

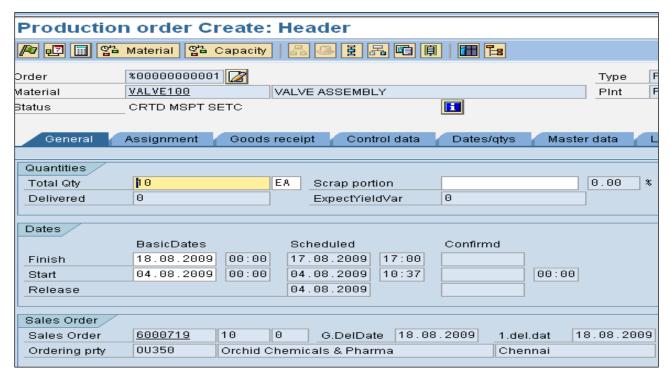
Use transaction code J1IF13



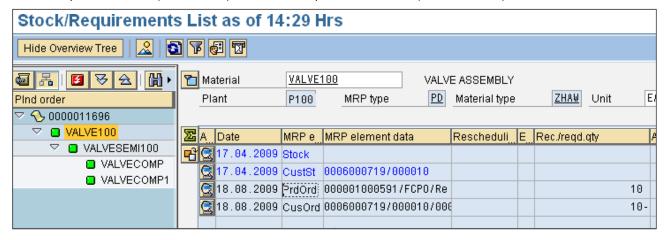
#### **Convert Finished Material Planned Order to Production Order**

From planned order to Production order, transaction code MD04



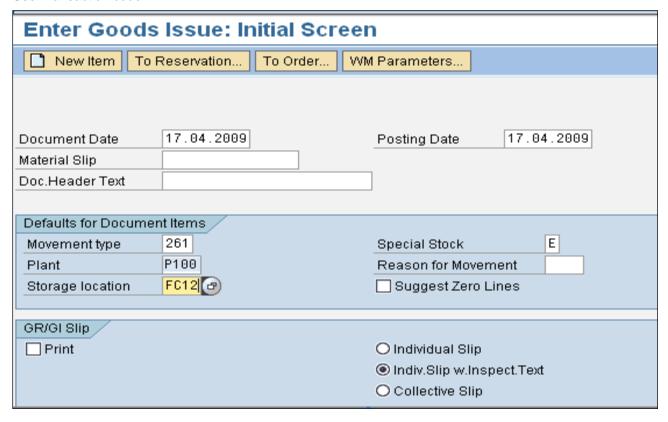


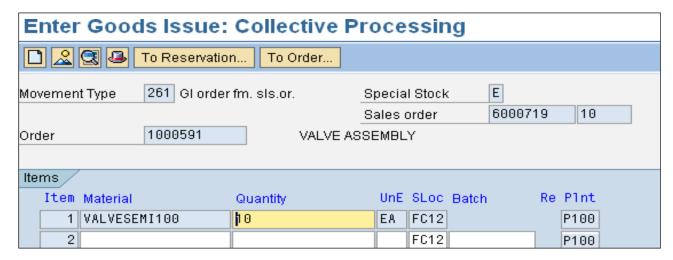
Note that planned order (000011696) converted as production order (00000100591)



### **Goods Issue to the Production**

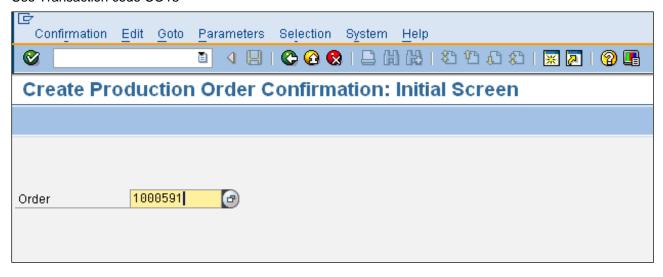
Use Transaction code MB1A





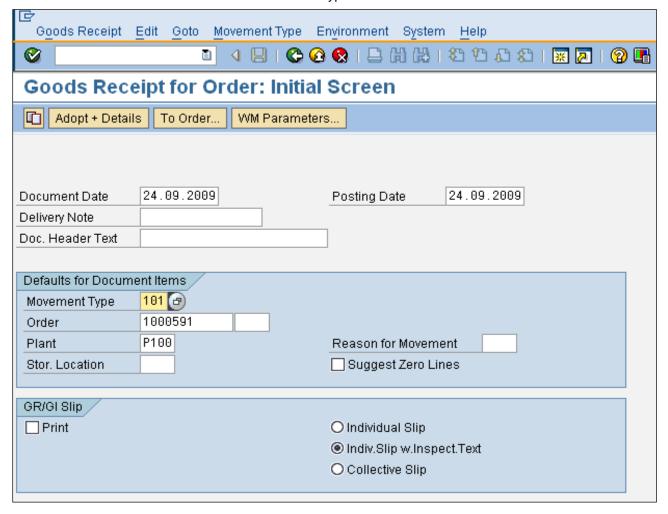
# **Confirmation of Production Order**

Use Transaction code CO15



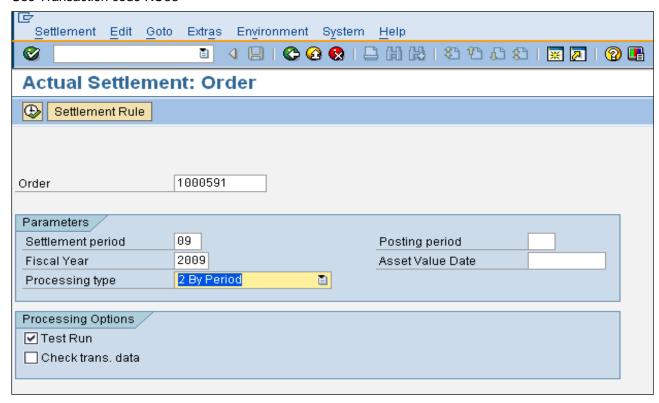
# **Goods Receipt Against Production Order**

Use Transaction code MB31 / MIGO with movement type 101



# **Order Settlement for Production Order**

Use Transaction code KO88



# **Delivery of Finished Products**

Use Transaction code VL01N

