MM0012 - MM Integration with FI,SD,PP,QM,PM and PS

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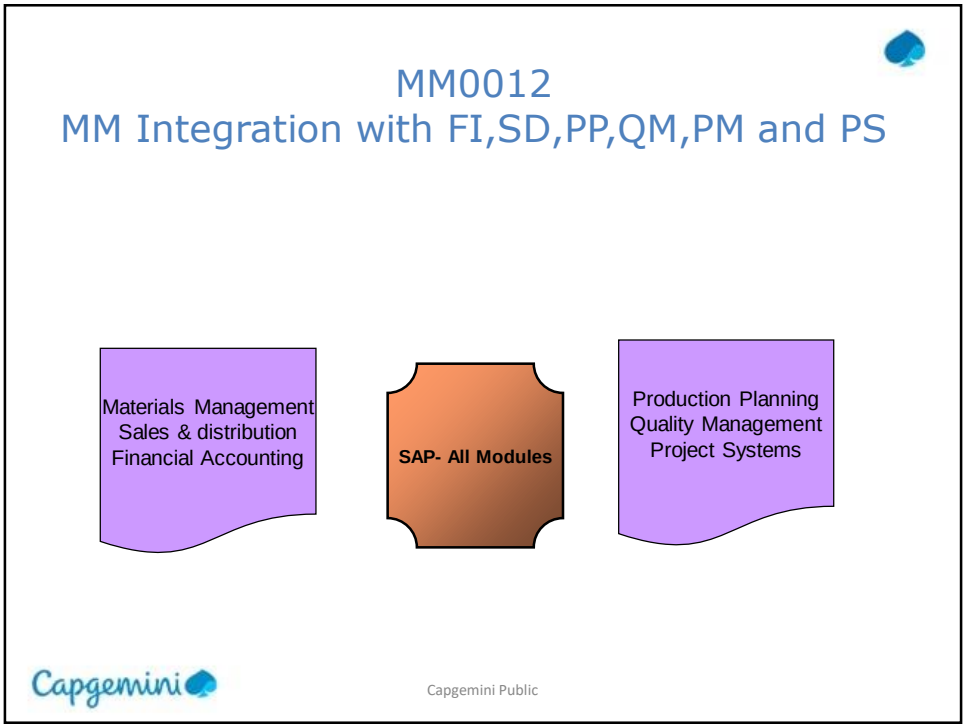


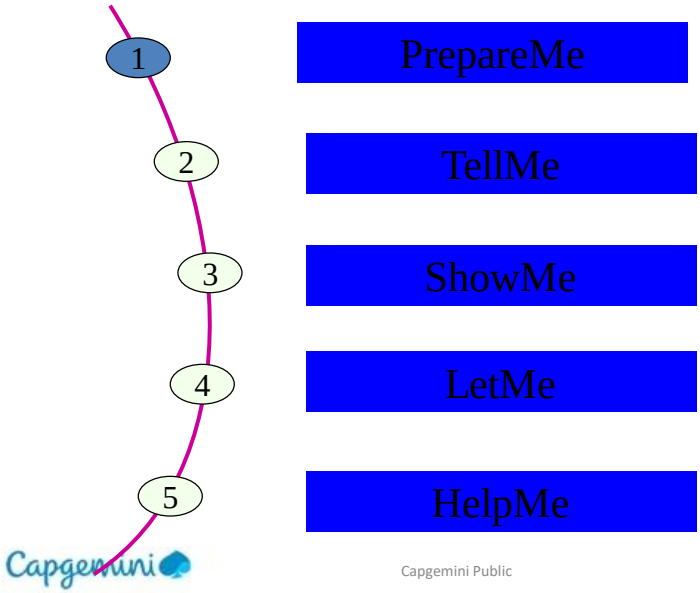
This In-house course was developed to meet the needs of SAP R/3 Consultants working at Capgemini

This course is designed to present a high level view of Materials Management Inventory management and to provide the Consultants with basic information about how to use this Functionality

More in-depth courses have been developed to train Consultants in specific areas discussed during this course

Your comments at the conclusion of this training session are appreciated and will help us better tailor future courses to meet your training needs

MM Integration with FI,SD,PP,QM,PM and PS



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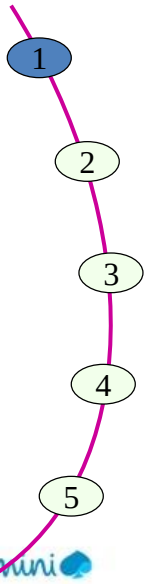

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- In SAP Material management, the various data generated are shared and integrated among the other modules
- A perfect integration between different business process of a company implies the true power of Supply Chain management
- Integration has a cascading effect on all the departments and happens at the same time irrespective of geographical boundaries
- A complete and efficient Supply Chain implementation means ,it is able to generate requisition from a sales order, and update G/L a.c while receipt and other business process

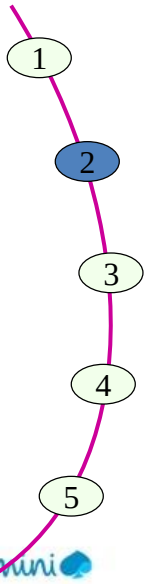
Purpose

- In SAP Material management, the main purpose of integration is that all the divisions of an organization gets the impact
- The business flow is maintained via the integration - > interdependencies are being addressed through integration
- The main feature of SAP – MM application integration stand out is the capacity of doing it in *real time - > which signifies* that information is constantly updated

Use

- The Materials management module is integrated with FI helps in proper G/L postings during various movement of material and also it removes duplicate entry
- For deliveries via SD route we need to have integration with SD, where deliveries can be created for Stock Transfer between two plants and then stock can be picked and goods issue can be done
- For a subcontracting process Bill of Materials (BOM) helps in planning of components while being exploded for a finished product which has been subcontracted
- MM Integration with Quality management process makes it possible for the organization to restrict below graded product either to be accepted or being sold out to customers
- In Materials management , procurement can be done based on some Projects ,where the materials procured can be accounted against Work Breakdown Structures (i.e WBS elements)
- Maintenance Orders created during routine maintenance can trigger off a procurement process by creation of purchase requisition

MM Integration with FI,SD,PP,QM,PM and PS



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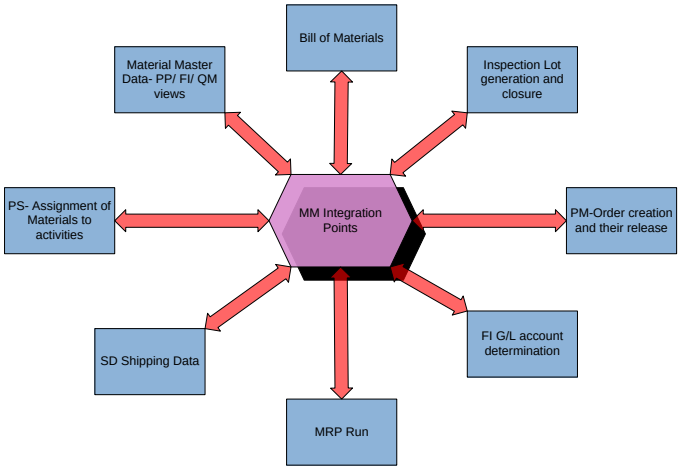
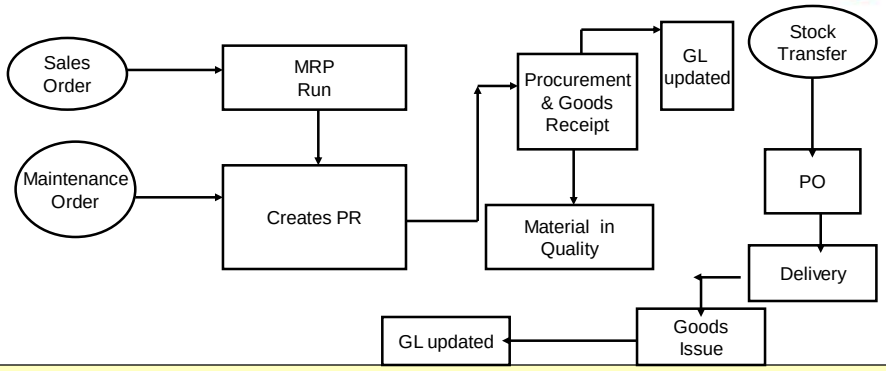
TP – MM Integration aspects

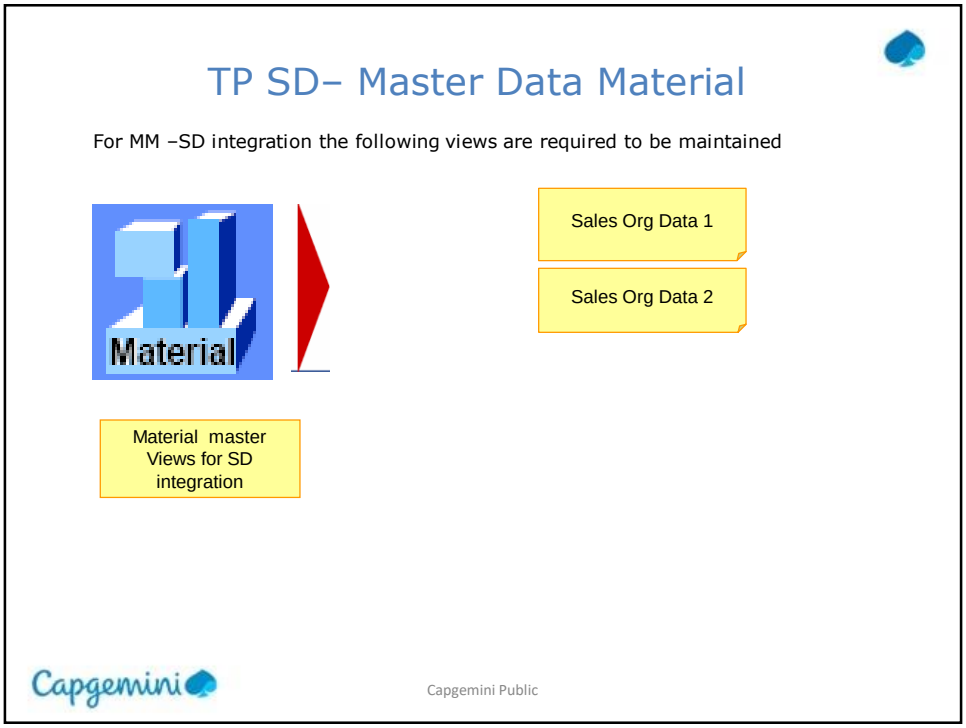


TP-MM Integration at a glance



- During Stock transfer between two companies or even two plants located far away SD Delivery route can be used for Goods Issue
- Whenever any Goods movement is done, the FI book is hit , i.e GL a/c gets updated and this is done on a real time basis
- A maintenance order when released can be used to create a requisition of a material
- Else during Production planning after receiving of Sales Order requisition can be created

Material Master



•Also Basic Data view is required

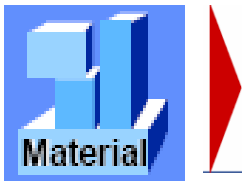
•General item Category field is an important field in Basic Data 1 view

•It controls the way deliveries are being created (both inbound or outbound) in case of Goods Movement

•In addition to the above views for stockable material, quantity and value updation should be activated for material type settings in customizing

TP FI– Master Data Material

For MM –FI integration the following views are required to be maintained



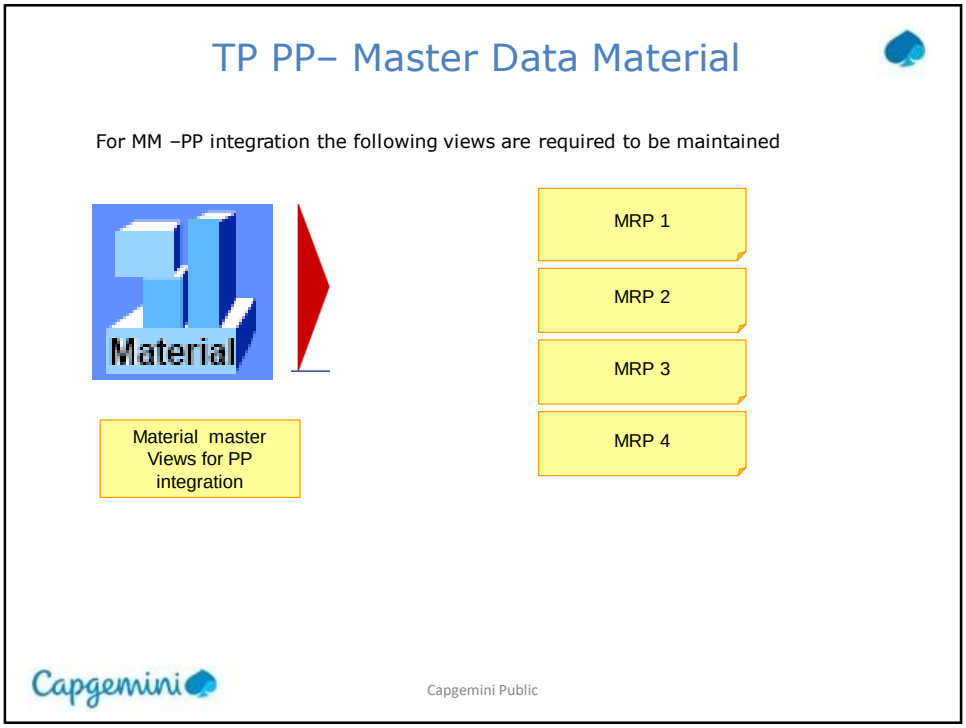
Accounting 1

Material master Views for FI integration

•Also Basic Data view is required

•In Accounting view valuation class is a very important field which actually links FI with MM

•In addition to the above views for stockable material, quantity and value updation should be activated for material type settings in customizing

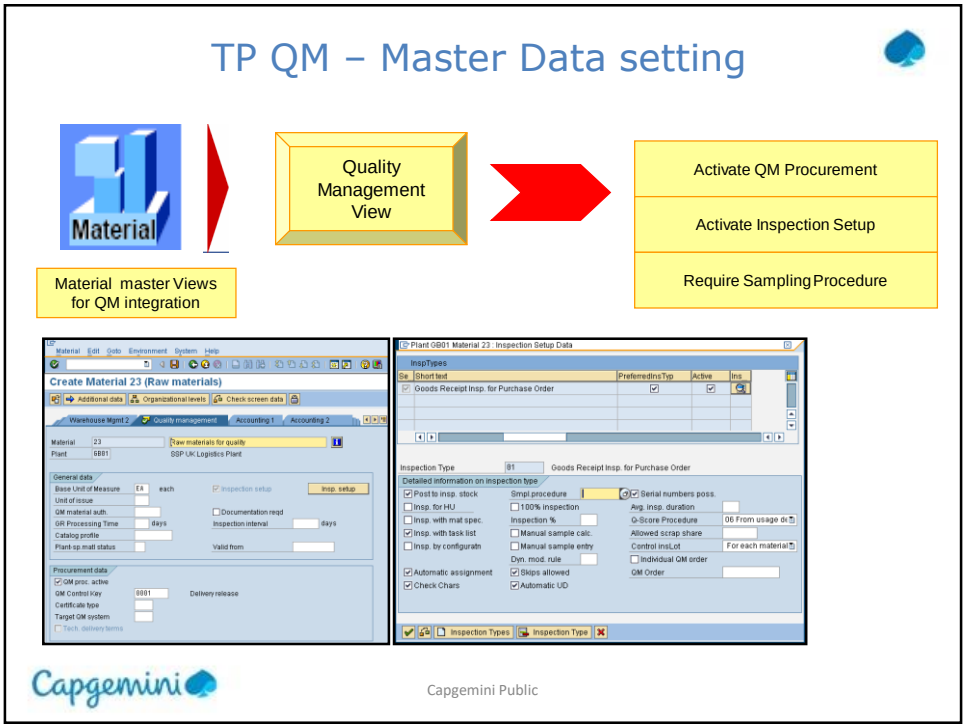


•Also Basic Data view is required

•The MRP type is a very important aspect for running of MRP for the material

•It signifies what all to consider when MRP is run, and how Purchase requisitions will be created when MRP is run

•In addition to the above views for stockable material, quantity and value updation should be activated for material type settings in customizing

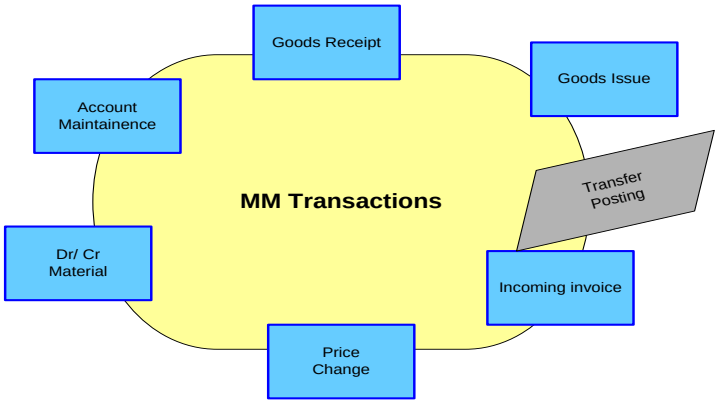


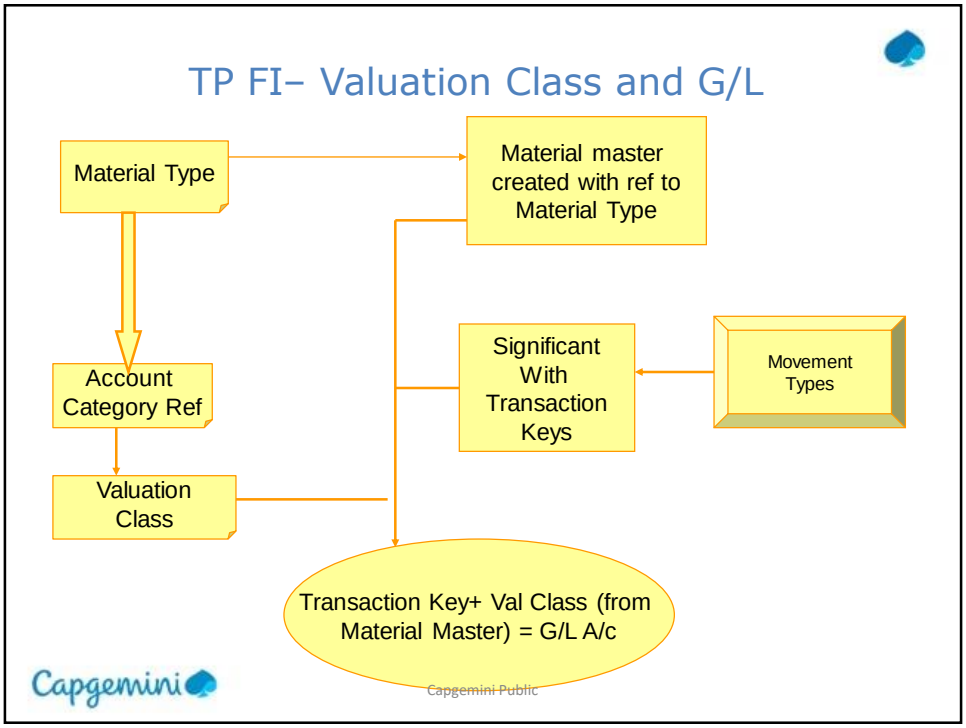
•In the QM view of the Material Master the QM procurement key must be checked, QM control key must be configured

•Also Insp Setup needs to be maintained , along with sampling procedure– These are although QM configuration steps

MM Integration with FI

TP FI – Auto A/c Determination

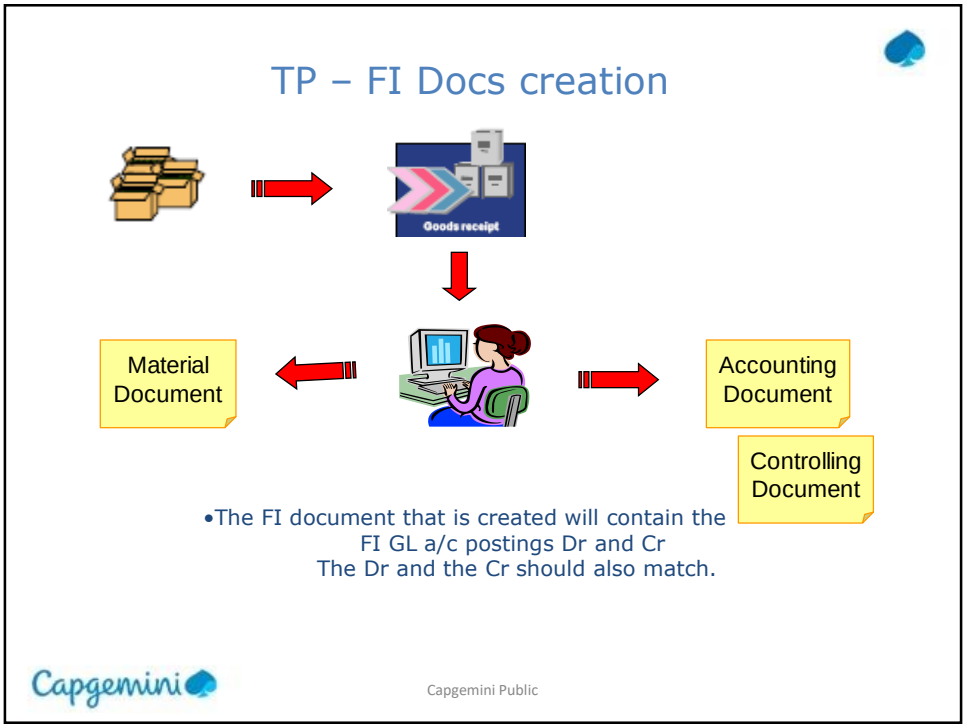




•The above is also called automatic account determination for FI

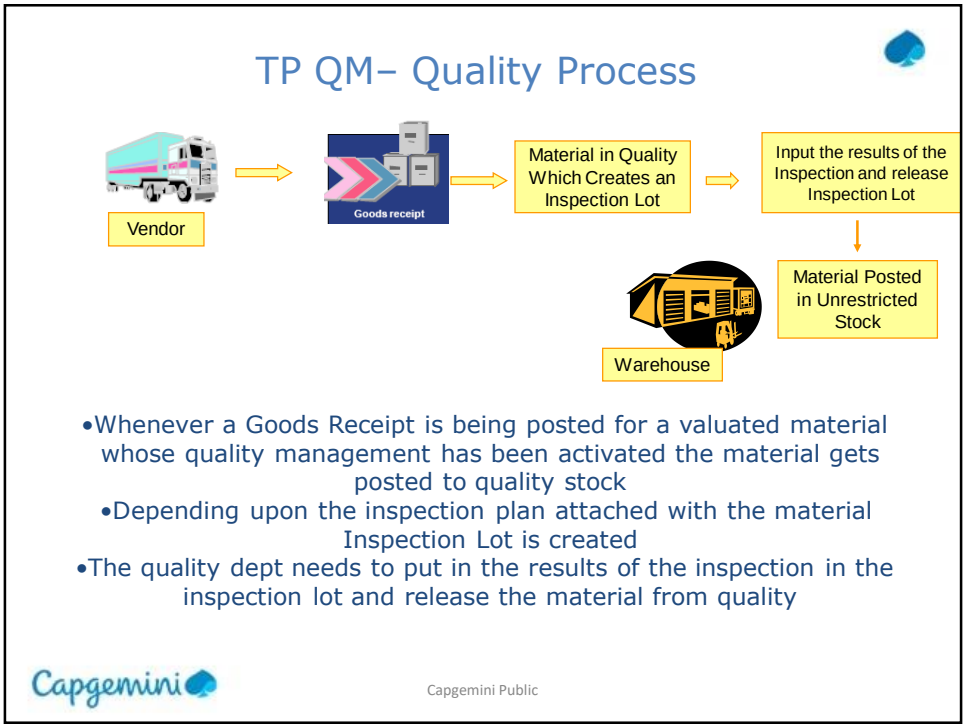
•If the valuation area is a plant , then any addition of value or change in value creates a FI entry for a valuated material

•If no value is added or changed and movement is done from one valuation area to other then also FI entry is created



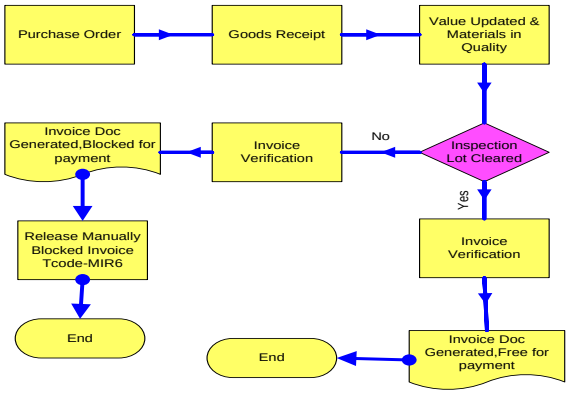
If accounting are affected by the material movement, then accounting document is created in addition to the material document as an integration aspect that FI books are also affected

QM Integration



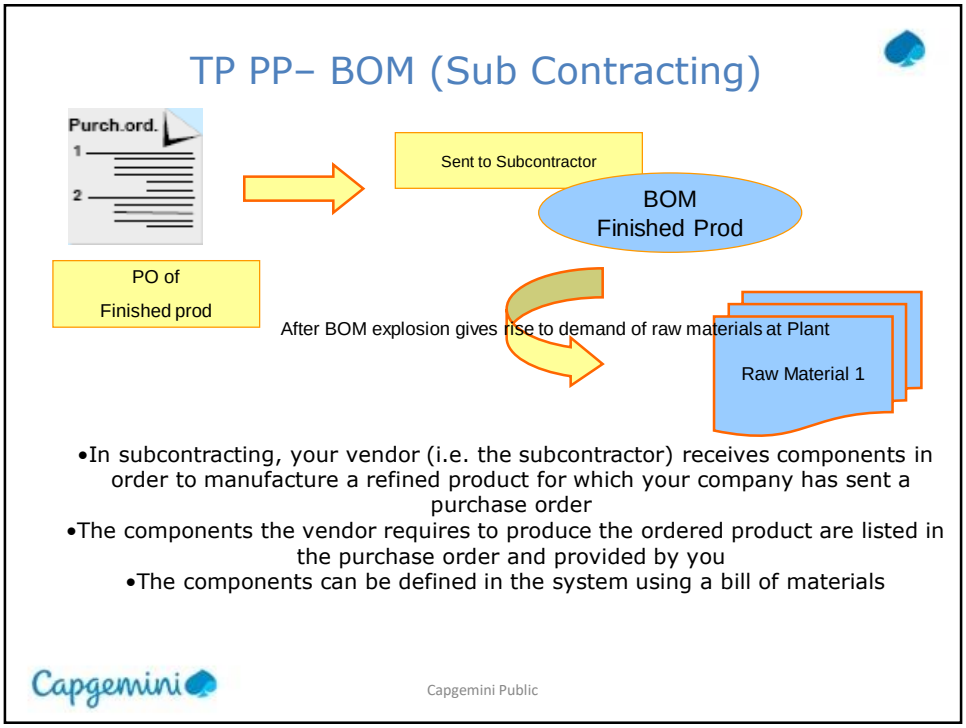
An inspection lot is being identified with an inspection Lot number – which is usually an Internally generated number and a Inspection Lot creation date

TP QM– Invoice Blocking



- If an invoice Verification is carried out for a material in quality then the Invoice will be posted but blocked for quality reasons
- Then the user needs to go to transaction 'MIR6' and manually release it for payment by FI

MM Integration with PP



•First Create the Po of the finished product

•This finished product has a BOM of its components consists of Raw Materials

•Use T.Code – ME2O for displaying SC stock monitoring for vendor , choose Execute

•Click on the field under the materials number

•Then the components to be supplied will be displayed

TP PP – MRP Data in Material Master record

MRP Data

- MRP type
- Planned delivery time / Inhouse production time
- Lot-size indicator
- MRP controller
- Scheduling margin key

•MRP data in the material master record can be subdivided into the following categories:
•General data which we must/can always define for a planning material,
•MRP procedure dependent data
•Data required for scheduling,
•Data required for lot-size calculation,
•Data required for storage location MRP.
•MRP data in the material
•The procurement type defines whether the material is produced in-house, is procured externally, or
both.
•The MRP controller is a person or group responsible for planning material requirements
•The MRP type determines whether or how the material is planned.
For ex- the material could be planned using traditional MRP, or it could be planned using reorder point planning.
•The lot size key determines the lot-sizing procedure the system uses to calculate the quantity to be
produced or procured. Examples include fixed order quantity, lot-for-lot and period lot sizes.

TP PP – MRP Run- types

Planning run (or MRP Run) for one plant online (total planning)

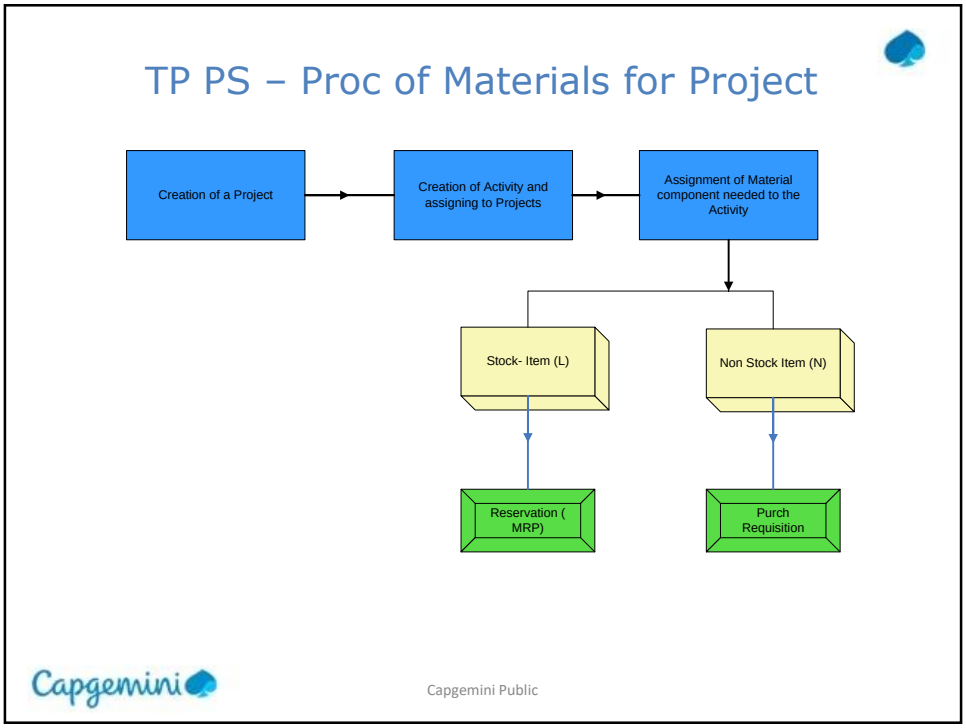
Planning run for one plant - background processing
(total planning)

Planning Run for one material- single item processing

- We can execute the planning run on two levels: for an individual material or as a total planning run for a plant
- In addition, it is possible to execute a total planning run for several plants and/or MRP areas
- We can execute a single -item planning run either for a specific material only (single level) or for all BOM levels (multi level).
- A total planning run can be executed online or as a background job.
- Total planning for a plant encompasses all materials relevant to MRP for this plant and includes the BOM explosion for materials with BOMs

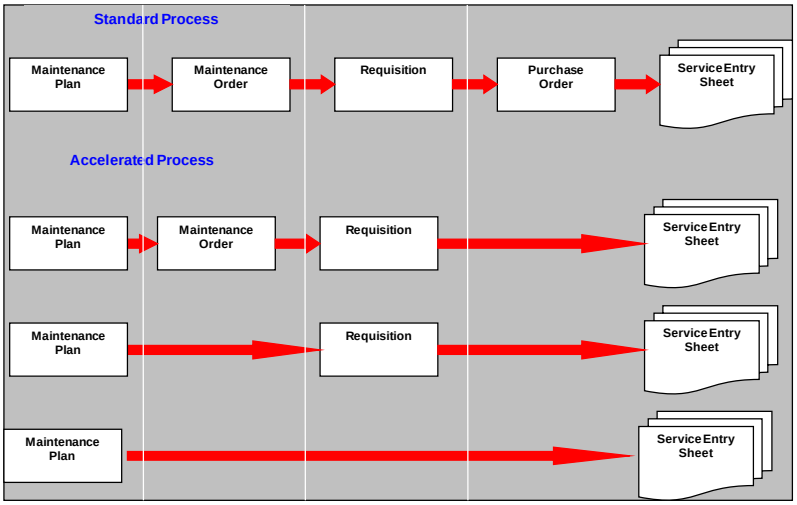
TP PP – MRP Run- Creation indicator

- The creation indicator controls the creation of planned orders or purchase requisitions, schedule lines, and MRP lists.
- By entering the creation indicator for purchase requisitions in the entry screen of the planning run, we can control whether the system should directly create purchase requisitions or planned orders first.
- If a schedule line exists for a material and the source list contains an entry relevant for planning, schedule lines can also be created directly via materials planning.
- This is controlled by the creation indicator for schedule lines in the entry screen of the planning run.
- The planning results can always be saved in the form of MRP lists.
- The creation indicator for MRP lists controls whether the system should always create an MRP list for all planned materials or whether it should create an MRP list for certain materials depending on the exception message.
- In total planning, the creation indicator in the entry screen is used for planning if no other plant or MRP group parameters have been maintained for the material.



- For planning of procurement of the material for a particular project, material components are required to be assigned to the activities.
- There can be two different types of material- stock items (item category L) and non-stock items (item category N).
- Stock items are entered for materials that are valuated and are kept in stock, (warehouse, or project stock), for which reservations or stock requirement list can be generated for stock items.
- Non-stock items are entered if materials are to be procured directly for the network (that is, not using MRP).
- Purchase requisitions are created for non-stock items and can be directly passed on to purchasing.

TP PM – Procurement via Maint. Plan



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•Some services like grass cutting, watering, repairs, preventive cleaning are to be performed on a periodic basis

•This can be recorded the service specifications in a maintenance order (application component PM Plant Maintenance) that references a maintenance (servicing) plan.

•The processes described under the 'Standard Process' above is a basic process cycle.

•But in 'Accelerated Process' we can have the option of speeding up service procurement by reducing the number of steps to be carried out in the SAP System to a minimum.

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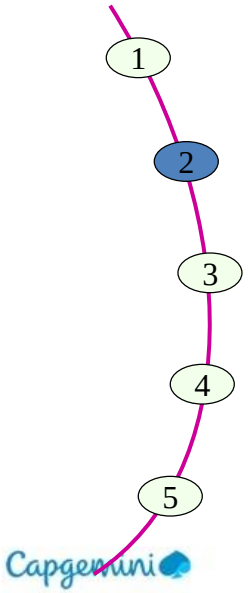

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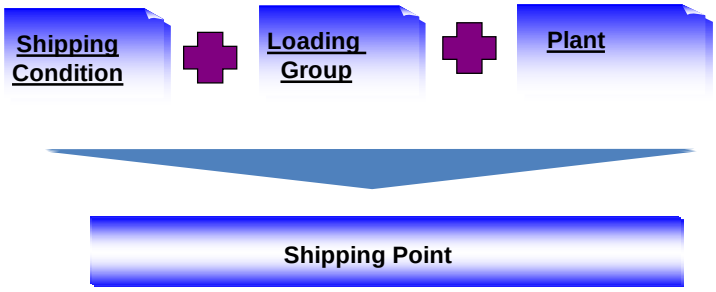
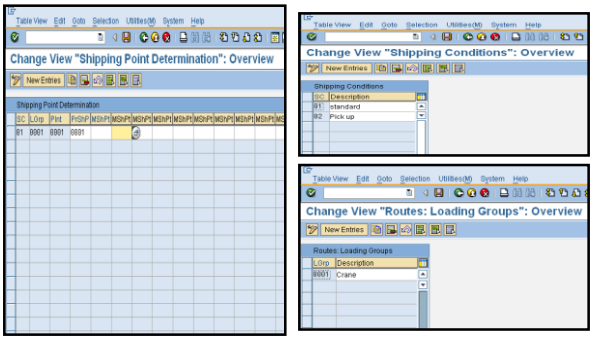
Shipping Point

TP SD – Shipping Point



- The Shipping point is required for creation of deliveries.
- The supplying plant is to be treated as a customer and a customer code should exist with the same code as that of the Plant.
- The SAP system automatically determines the shipping point during creation of an Inbound or an Outbound delivery

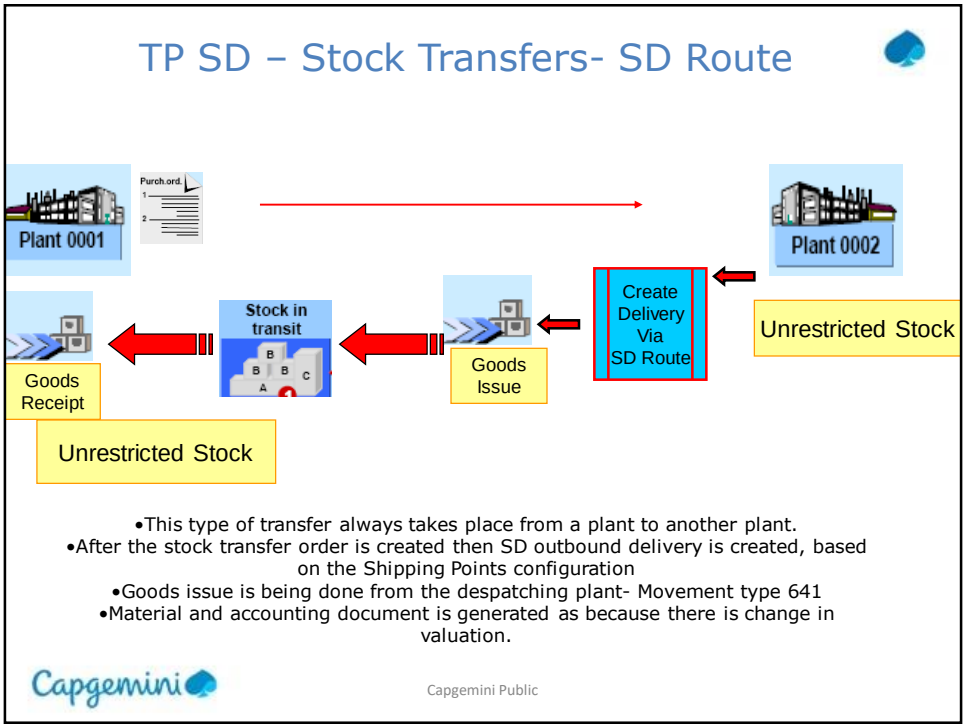
TP SD– Shipping Point Configuration



Logistics Execution → Shipping → Basic Shipping functions → Shipping Point and Goods Receiving Determination

- For Shipping Condition Configuration go to ***'Define Shipping Conditions'***
- For Loading Group Configuration go to ***'Define Loading Groups'***
- For Shipping Conditions go to ***'Assign Shipping points'***

•The Loading group is defined in Sales Data view of the material master.



- This process starts only after the issuing/ despatching plant receives a Purchase order from the receiving plant.
- The issuing/ despatching plant then creates a outbound delivery
- The outbound delivery is then used for 'Picking' if picking has been activated for the Plant
- The issuing/ despatching plant then issues the material from its unrestricted use stock, against that PO.
- Movement type 351 is generally used.
- These types of Purchase Orders are usually called 'Stock Transport Order'
- The receiving plant has to be maintained as a Customer

Auto A/c Determination

TP FI – Influencing Factors

Client	Chart of Account	Transaction Key	Valuation Modifier	Account Group	V Class	G/L Dr	G/L Cr
125	CAIN	BSX	0001		3000	300000	300000
125	CAIN	WRX	0001		3000	191100	191100
125	CAIN	PRD	0001		3000	231000	281000
125	CAIN	GBB	0001	VBR	3000	400000	400000

- The Influencing factors for auto account determination is-
- Chart of Account
- Transaction Key
- Valuation Modifier
- Account Grouping Code
- Valuation Class

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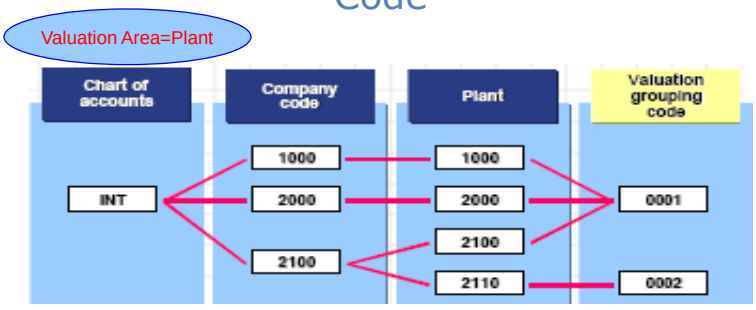
TP FI – Influencing Factors – Val Grouping Code



- This is a key for account determination that enables a differentiation for G/L account assignment by valuation area within a chart of accounts
- By activating or deactivating the valuation grouping codes, we can turn on or off the dependency of the account determination function on the valuation area
- If Valuation grouping code has been activated, you must assign a code (any code) to each valuation area
- You must configure automatic account determination separately for each valuation grouping code within a Chart of Account

TP FI – Influencing Factors- Transaction Key & A/c Grouping Code

Account Grouping

• Key for account determination that enables a G/L account assignment differentiation for the offsetting entry for an inventory posting (transaction BSX) and possibly other transactions

•Depending on the movement type and the special stock indicator, you can assign an account grouping (any account grouping) for individual transactions (such as GBB, PRD, ...)

Transaction Key

•Key for account determination that symbolizes the business transaction

•Posting transactions for MM are fixed. We use the transaction key to control if the SAP System is to make a posting to a stock account, a price difference account, a GR/IR clearing account, and so on.

•Based on the Movement types this transaction key is determined

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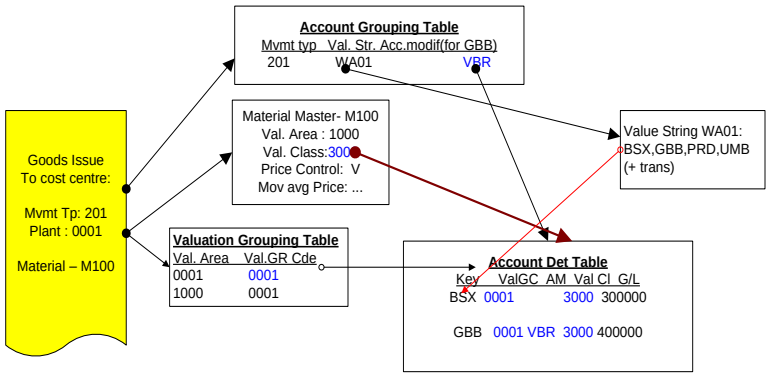
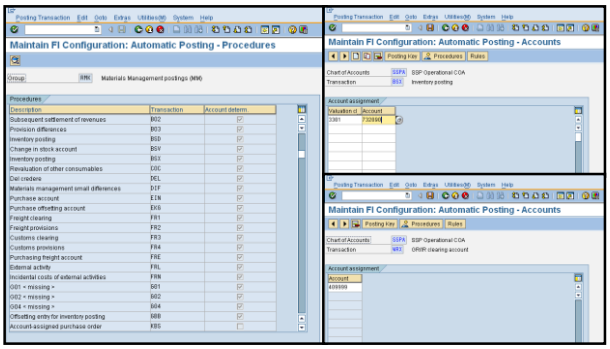
- Since we use the posting transaction *Offsetting entry for inventory posting* for various transactions (such as goods issue, scrap, physical inventory), and these transactions should be assigned to different accounts (such as consumption accounts, scrap accounts, expense/revenue from physical inventory differences), it is essential to subdivide the posting transaction according to another key - the account grouping code
- Account grouping is a key that allows us to subdivide number assignments for each transaction key in account determination
- In Materials Management in the standard system, account grouping is only active for transaction key GGB (*Offsetting entry for inventory posting*).
- We assign an account grouping to each movement type in Inventory Management that uses the posting transaction *Offsetting entry for inventory posting*.
- As well as the *Offsetting entry for inventory posting*, we can also use account grouping for other transactions (such as price differences) for further differentiation of account number assignments depending on the movement type, if required in the company.

TP FI – Auto A/c Determination an Example

Posting with Quantity Updating for a material with Value updating



TP FI– Auto A/c Determination



Materials Management → Valuation and Account Assignment → Account determination without wizard → Configure Automatic Postings

- For stock postings
- Maintain the corresponding G/L a/cs for transaction key 'BSX'
- Maintain the corresponding G/Ls for transaction key 'WRX'

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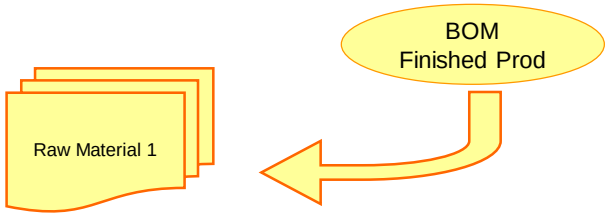
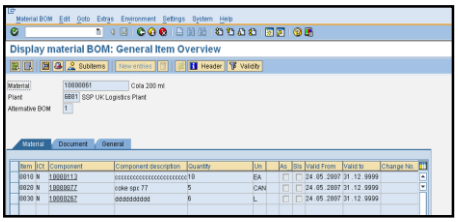
- Here we can also change the Rules for a particular Transaction Key.
- Following options are usually allowable for changing of rules-
  - Dr/Cr
  - Valuation Modifier
  - Valuation Class
- For offset accounts for transaction key 'GBB', there is another option of General Modifier

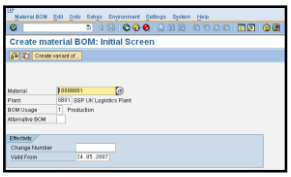
BOM and MRP Run

TP PP– Bill of Materials

Menu path: Logistics -> Production -> Master Data -> Bills of Material -> Bill of Material -> Material BOM -> Display
TCODE : CS03
For creation it is CS01

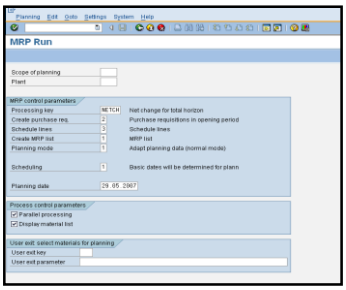


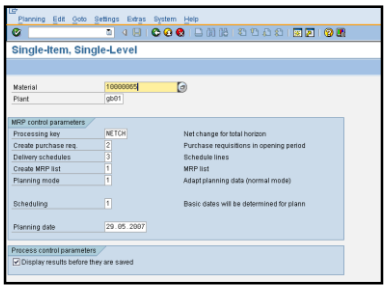




TP PP – MRP Run

Logistics ->Materials Management ->Materials Requirement Planning ->MRP->Planning-> Total planning
TCode- MD01 for Online planning
TCode – MD03 for Single Item Single Level





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Whenever a MRP Run is being carried out, the output depending on settings can be a Purchase Requisition.

This Purchase requisition so created under MRP run can be used for starting the procurement cycle.

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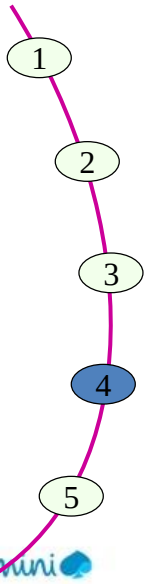

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Case Study

ABC Corporation has business setup in UK and India with its head quarter based in London.

It is in the business of manufacturing fast moving Food products, and has a very highly sophisticated warehouse, where all its products are being stored.

Its plant is located in London, and Glasgow in Scotland ,and the management is setting up a new machinery as a part of its modernizing program in Glasgow. They have a quality setup in both the plants .

Do the following-

- Create a material master for chicken legs (for material Type ROH), such that it contains, basic Data, Purchasing, General Storage, Quality management, Accounting and Costing view
- Update Initial Stock of 100 KG. Check the material and accounting documents generated
- Create a PO for London plant 2000 KG, and then receive the material in two steps of 1000 Kgs each in quality. Check how many Inspection Lots will be created
- Check the Inspection Lot of a quantity of 1000 KGs and clear it and then give a usage decision.
- Check the stock overview, and after the material is released from quality check the stock overview
- The supplier has sent his invoice of 2000 Kgs and the Finance department clears the total invoice.
- Check the blocked invoices list if any invoices has been blocked, and what is the reason of blocking it
- The Glasgow plant immediately requires 500KG, since it has run a stock out situation and its supplier will take another 10 days to deliver, due to some problem in his yard. Hence its has requested its London plant to send a stock of 500 KG.

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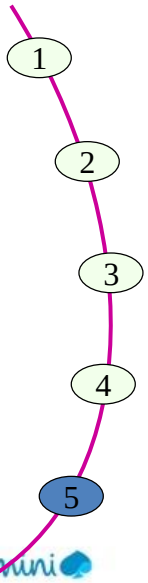
Do the following-

- Extend the material chicken legs for Glasgow plant and maintain Shipping point configuration for the plants and create customer codes for the plants
- Create a Stock Transport order, where the supplier plant is London plant and receiver plant is Glasglow plant. Note down the PO No.. Check the 'Shipping Conditions Tab'
- Use this PO Number to create an outbound delivery number
- From the Outbound delivery do a Goods issue to 'Stock-in-Transit'
- Check the material document and accounting document so generated.
- Check also the movement type used.
- The Glasglow plant has now received the consignment next day, but it has found that one crate containing 10KG seems damaged
- Receive 10 KG in GR blocked stock and the rest in quality stock
- The organization has now put in place a maintenance plan for all the equipments
- Create maintenance order for materials and also for services
- From that create service entry sheet
- For the new plant at Glasglow, the organization has decided to build up a Turbine setup.
- Create a Project Builder and assign the components to the projects.
- Create reservation for the stock items and issue the material from stock based on the reservation number.
- Create P Requisitions for non stock bale items

MM Integration with FI,SD,PP,QM,PM and PS



PrepareMe

TellMe

ShowMe

LetMe

HelpMe

Additional Information

- In most of the project now a days companies work on interfaces
- It means that some data will be flowing out of the system and some data will be flowing in the system
- SAP uses XI- component to interface with the outside system
- XI lands those information in an electronic form into SAP as 'IDOCs'
- Hence it is pertinent to know that what are IDOCs, what are message types and what are IDOC partner profiles.
- The enclosed document gives a brief introduction to IDOCs and what are the transaction codes that are commonly used for IDOCs.
- IDOC menu can be called in SAP by using TCode- 'WEDI'