# SAP PP

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## About the Tutorial

SAP Production Planning is one of the key modules in ERP and deals with planning processes, such as capacity planning, material planning, execution of production order, bill of material and goods movement.

This tutorial explains the key concepts of SAP Production Planning (SAP PP). Important components of SAP PP such as BOM, Work Center, Data Center, etc. are explained in this tutorial.

## Audience

This tutorial is designed for all those who want to learn the basics of SAP Production Planning. It is especially useful for managers involved in the production and manufacturing department.

## Prerequisites

The course is designed for beginners with little or no knowledge of SAP PP. But you need to have a preliminary understanding of SAP Basics to make the most of this tutorial.

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# 1. SAP PP – Introduction

SAP Production Planning is one of the key modules in ERP and deals with planning processes, such as capacity planning, material planning, execution of production order, bill of material and goods movement. SAP PP module handles the master data required for Bill of Materials (BOMs) activity, work center and routing, and keeps it in a separate component.

SAP PP submodules vary as per industry type like discrete production, repetitive production, or production industries.

**Discrete production** is an industry where produce materials change with each lot and costs are calculated as per orders and lots.

In **repetitive production**, the product is not changed for a long period of time. Production takes place in total quantity and not in the form of individual lots.

For most of the industry types, above-mentioned planning and execution submodules are commonly used. Before the production execution, many steps are performed as a part of the planning process:

- **Material Requirement Planning** (MRP) run (More details later in this tutorial).
- Bill of material and routing master data is entered in a planned order automatically with MRP run.
- Planning quantities are maintained in the system.

## Key Steps in Production Execution

Following are the key steps in executing a production order. It starts with a planned order and ends with goods receipt against a Production order.

### Convert Planned Order to Production Order

The first step is to convert a planned order to production order. When you create a production order, type is defined in SAP PP system.

### Issue the Production Order

To start the production process, it is necessary to issue production order. Till a production order is released, execution of the production process cannot start.

### Issue Goods for Production Order

To execute the production order, goods need to be issued. Once goods are issued, the document number can be updated in the system.



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## Production Order Confirmation

All the sub processes are executed in accordance with the required operations to confirm the production as per the production order.

## Good Receipts w.r.t Production Order

Once the execution of production order is complete, goods produced w.r.t production order are received and placed in the storage area.



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# 2. SAP PP – Common Tables

In this chapter, we will discuss some of the important tables in SAP PP.

## For Material Requirement Planning

| Table | Description |
|---|---|
| MDKP | Document Header data |
| MDTB | Table Structure |
| MDVM | Planning File Details |
| MDFD | MRP Date details |
| S094 | Stock Analysis |

## For Demand Management

| Table | Description |
|---|---|
| PBED | Independent Requirements Data |
| PBIM | Independent Requirements by Material |

## For Planned Orders

| Table | Description |
|---|---|
| PLAF | Planned Order Details |

## For Repetitive Manufacturing

| Table | Description |
|---|---|
| S025 | Run Schedule Quantities |
| S026 | Material Usage |
| S028 | Reporting Point Statistics |
| SAFK | RS Header Master Data |



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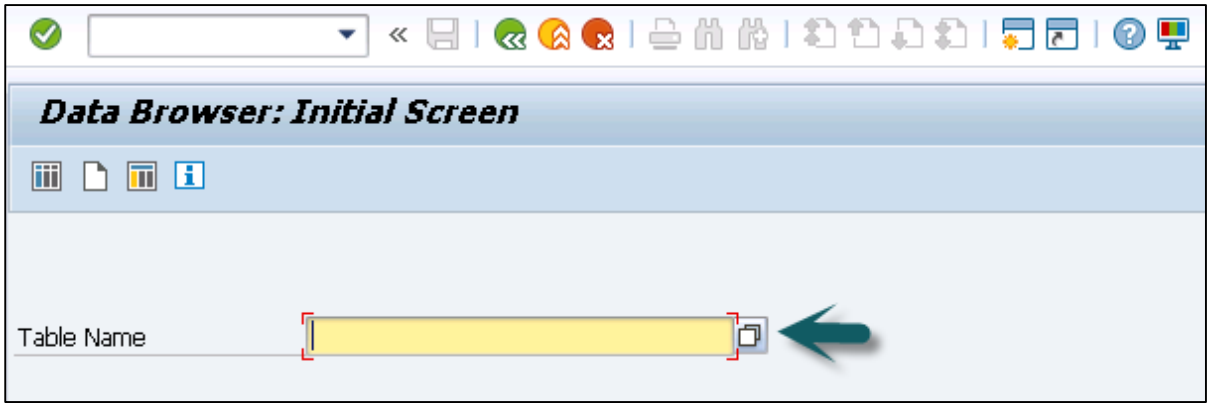
There are various tables in SAP PP system for BOM, routing, discrete production, material allocation, goods receipts, etc.

| Table | Description |
|---|---|
| MAST | Material BOM |
| STKO | BOM Header |
| STOP | BOM Positions |
| PLKO | Routing Group Header |
| PLSO | Routing Group Sequence |
| PLPO | Routing Group Operations |
| AFKO | Production Order Header |
| AFPO | Production Order Position |

## How to View SAP PP Tables in SAP ERP System?

**Step 1**: In ERP system, use T-Code: SE16.




**Step 2**: Go to SAP Applications.



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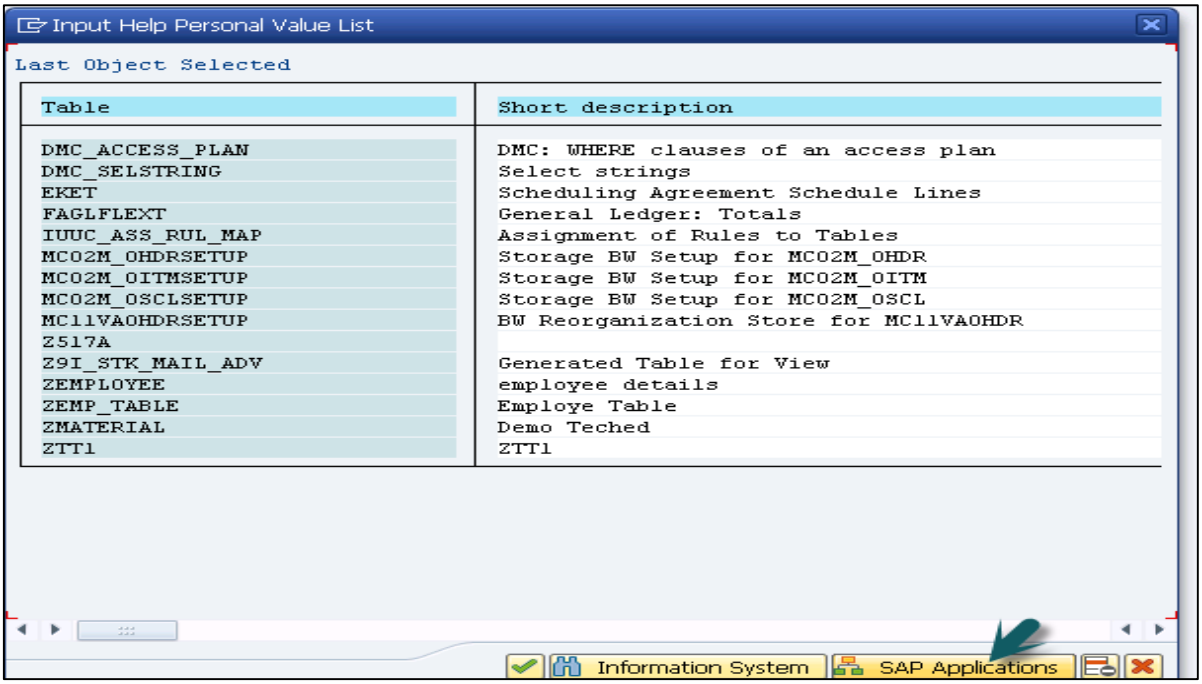
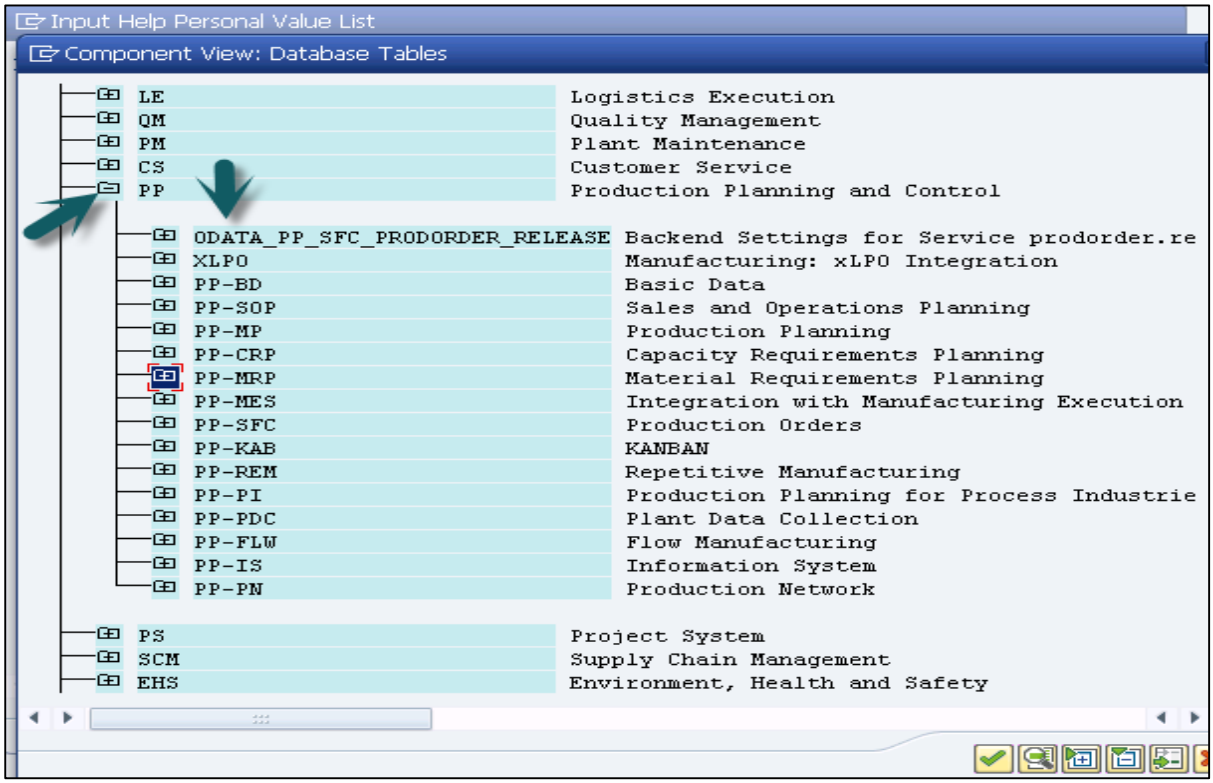



**Step 3**: Click the '+' sign and you can see the list of all tables in ERP as shown in the following screenshot.



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# 3. SAP PP – Organization Structure

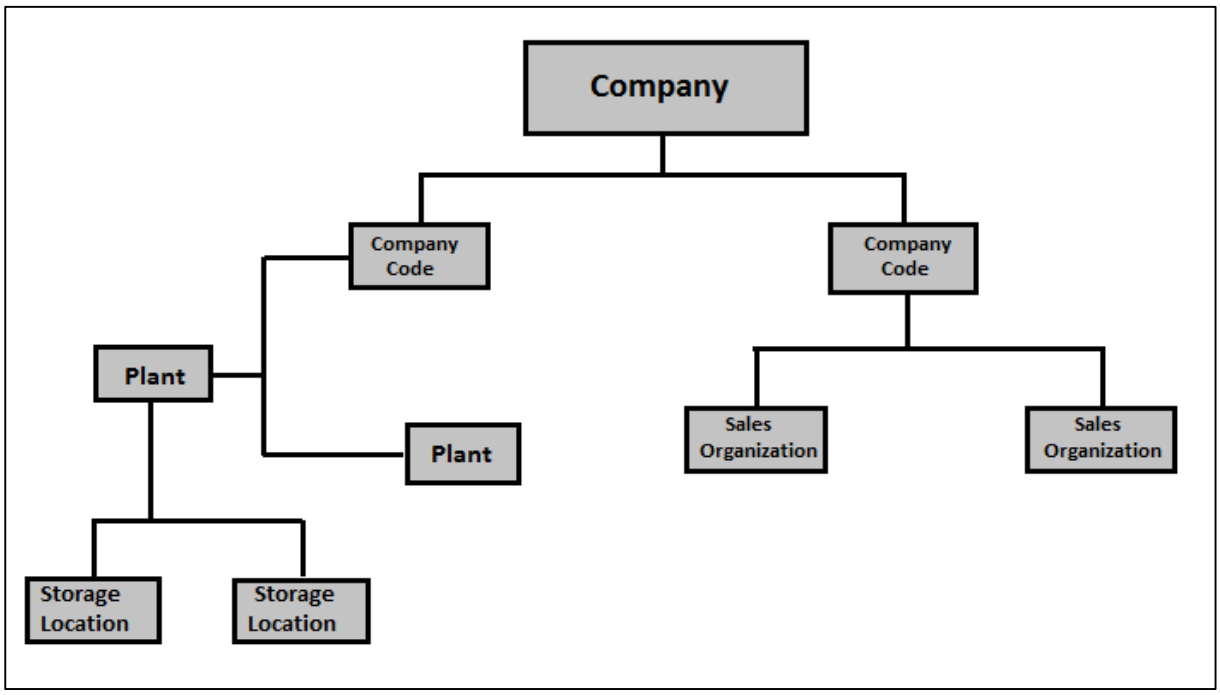
In SAP PP module, the organization structure defines the location of manufacturing plants and storage locations within the plant. At the top of the structure, you have the company and the company code and then each company code contains different plant and storage locations.

Following diagram represents a common organization structure in live SAP Production Planning environment.

All the planning activities are performed at the plant level.

Production master data in Production Planning is created at the plant level.

Production confirmation process and the movement of goods occur at the plant and storage level.



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# 4. SAP PP – Integration with Other Modules

To perform Production Planning and Control activities, SAP PP is closely integrated with other SAP ERP modules: SAP Sales and Distribution (SD), SAP Material Management (MM), Quality Management, Finance Accounting, and Project System.

You can find a list of the following activities from Production Planning that are related to other SAP modules and integration with other modules.

## SAP PP and SAP MM

- This involves movement of goods, auto goods receipt.
- It includes creating a reservation for Production Order/Planning.
- Raising purchase orders with MRP Run.
- Quotations and Vendor selection.

## SAP PP and SAP SD

- This is used to check the availability of material for production order.
- To perform MRP Run, Requirement Types.
- Bill of Material components and operation.

## SAP PP and SAP FICO

- Updating price in material master data.
- Defining activity type in the cost center.
- Assigning activity type to work center.
- Cost Estimation.
- Production cost controlling
- Posting accounting activities related to goods movement, material request, etc.

## SAP PP and Project System

- Assigning planning activities to WBS in the Project.
- Running Material requirement planning at Project level (MD51). The procured material attached to WBS are reserved as project stock against the particular project.
- The component attached to the network are planned at the plant level and are reserved as plant stock.

## SAP PP and Quality Management

- Inspection Type 03 for discrete and repetitive manufacturing.



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- Inspection Type 04 for both discrete and repetitive manufacturing.



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# 5. SAP PP - Master Data

Master data contains the main detailed objects in SAP Production Planning module. In SAP PP, main objects are Bill of Materials, material master, routing, and work center. Master data contains the key properties of these objects such as production order, material type, planning requirements, goods issue, and goods receipt.

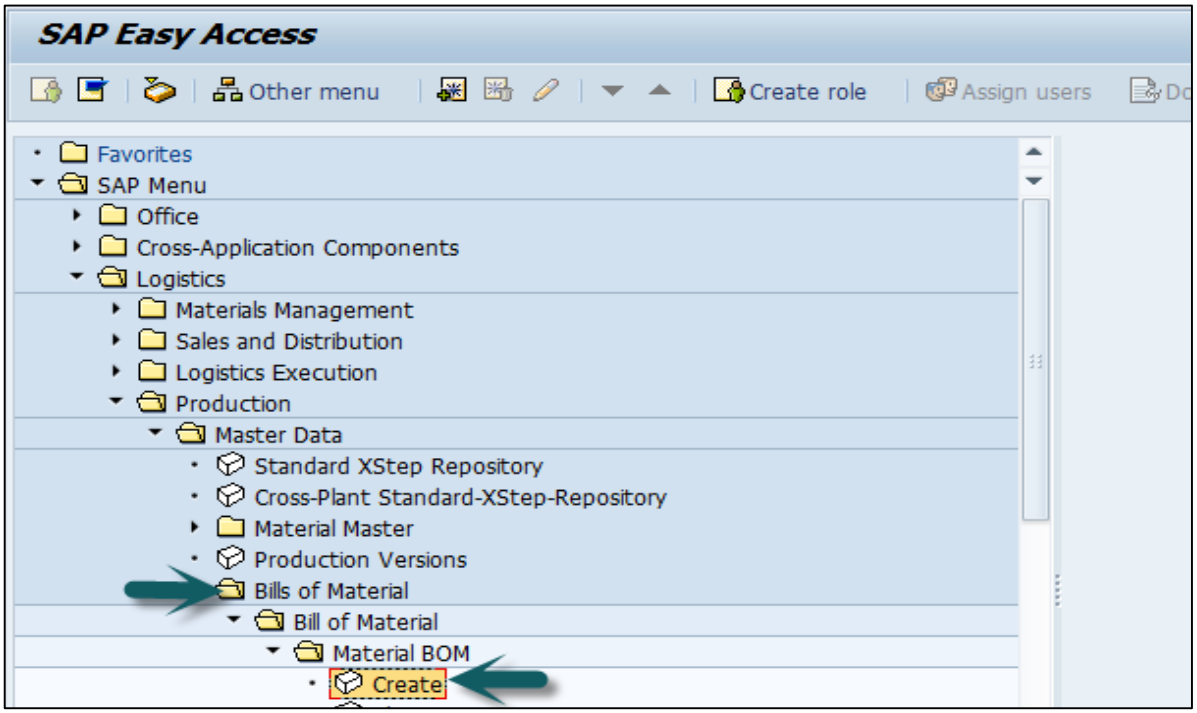
Following are the types of master data that exists in PP:

## Bill of Materials

Bill of materials master data is related to material requirement planning and provides the list of components to produce the product.

To produce a product with different variants, you can create super Bills of Material that has a list of components to manufacture different variants of a product. Selection of component depends on the details mentioned in the planning order. You can create up to 99 Bills of Material.

For Bills of Material master, use T-Code: CS01 or go to Logistics -> Production -> Master Data -> Bills of Material -> Bills of Material -> Material BOM -> Create



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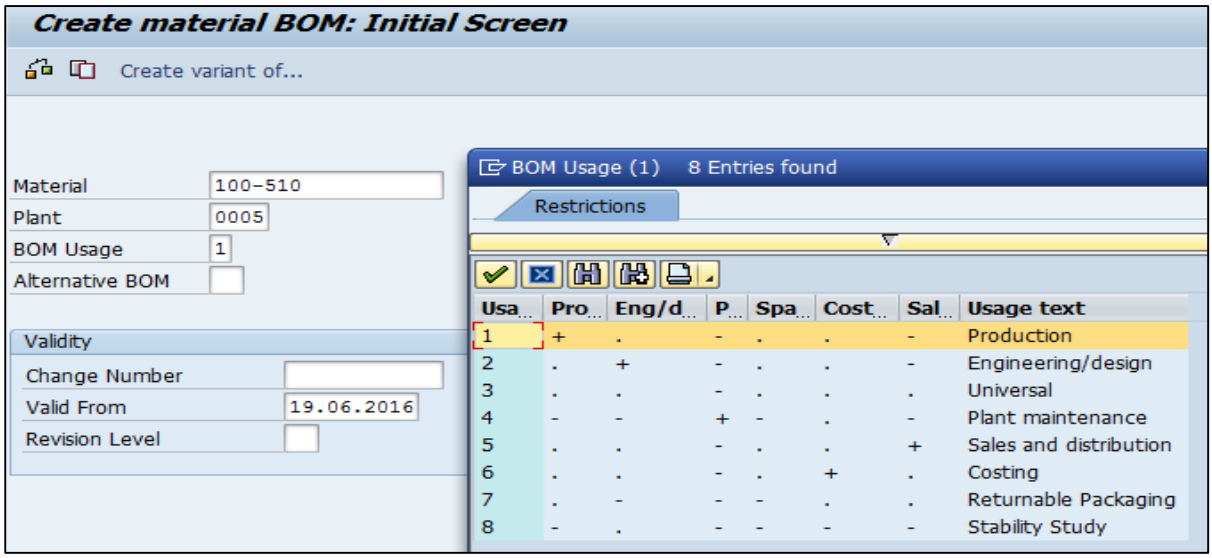
Select the following details:

- Material
- Plant
- BOM usage (usage 1 is production)




## Material Master

Material master contains information related to different material types like finished product, raw material. Material master can be used for identifying a product, purchase material, goods issue or good receipt, MRP, and production confirmation.

For Material master data, **use T-code: MM01** or go to Logistics -> Production -> Master Data -> Material Master -> Material -> Create (General) -> immediately



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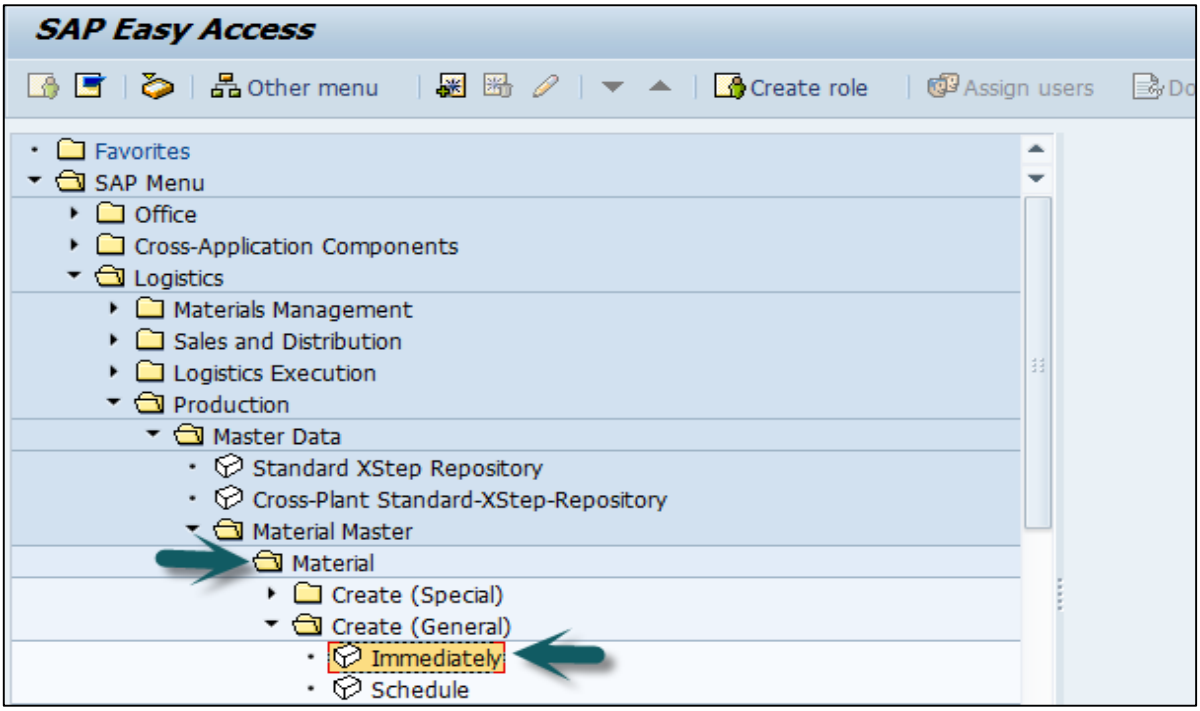
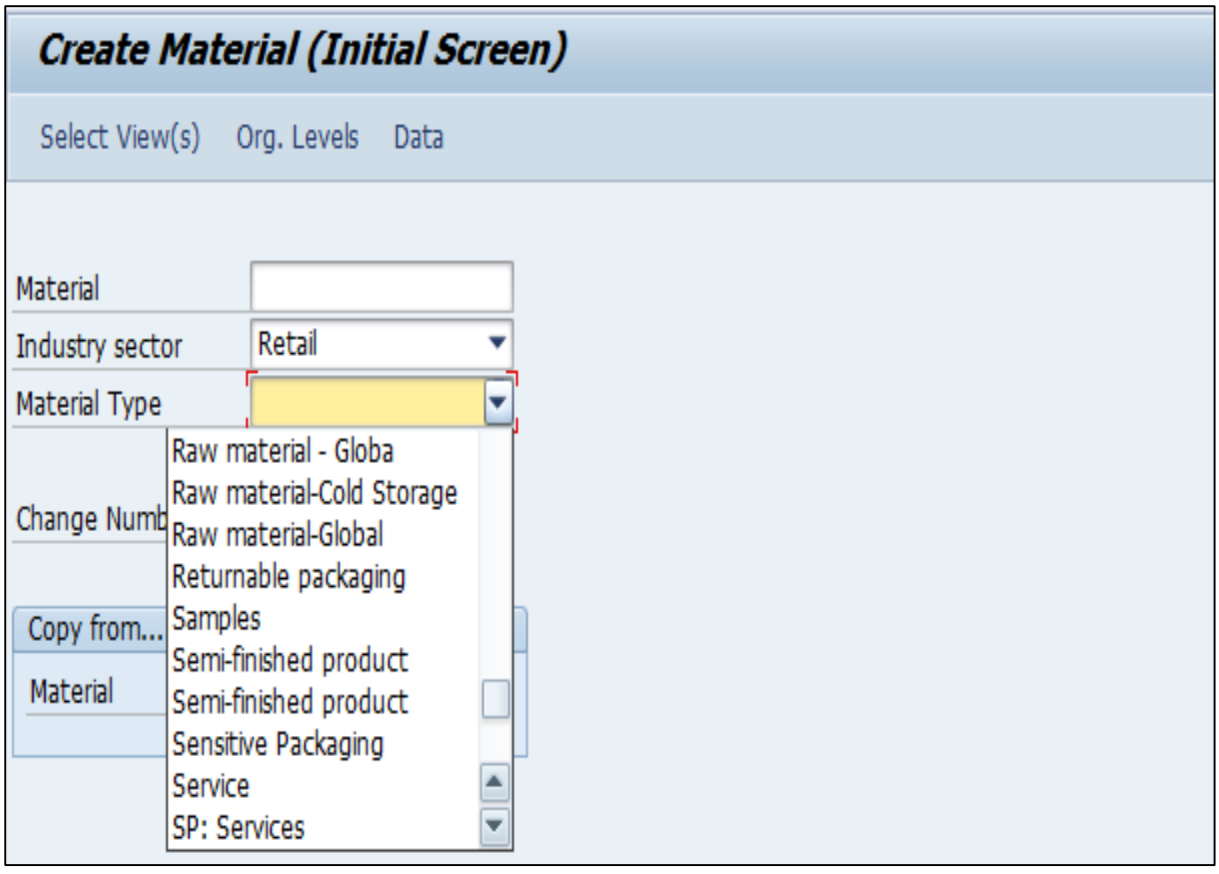



Enter the following details:

- Industry Sector
- Material Type



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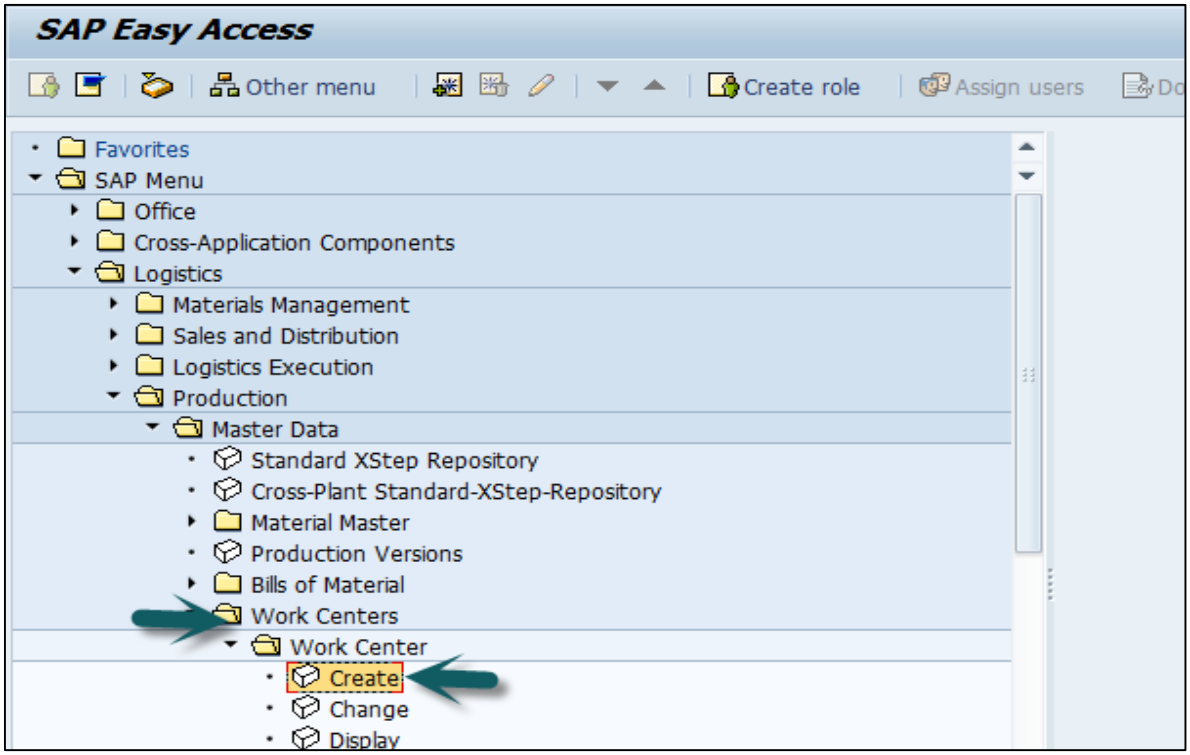
## Work Center

Work center consists of master data related to routing of products. It contains data related to scheduling, capacity planning, and production costing.

For work center, **use T-code: CR01** or go to Logistics -> Production -> Master Data -> Work Centers -> Work Center -> Create




Enter the following details:

- Work center name
- Plant name where work center is located

Select Work Center Category and click the tick mark.



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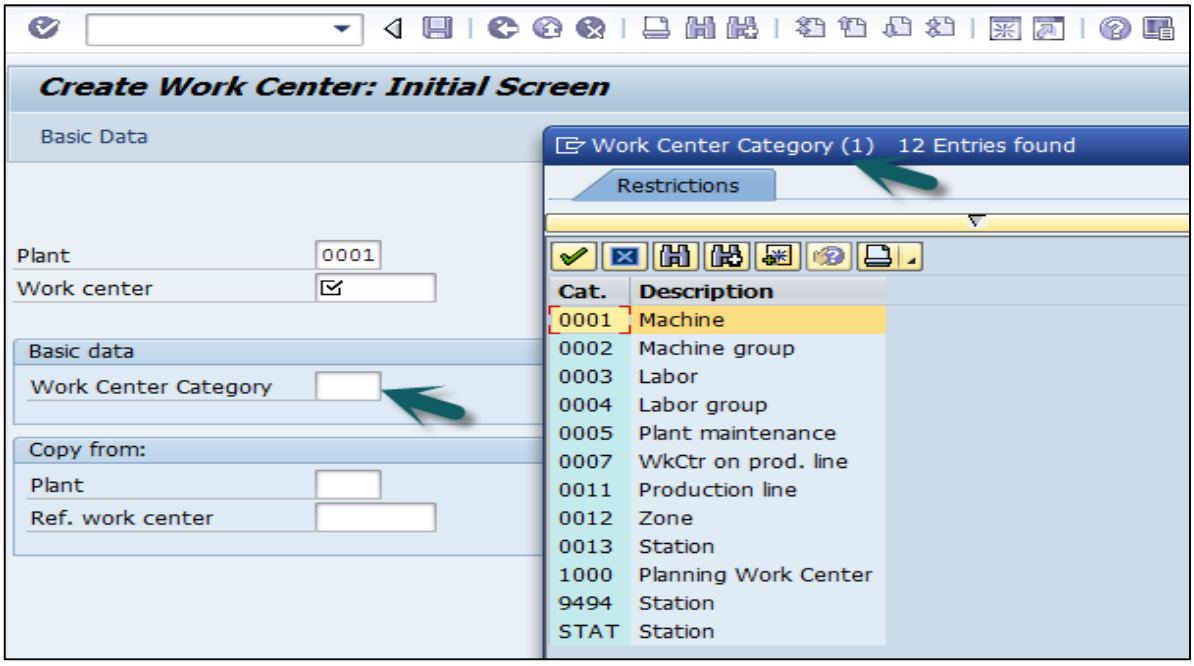
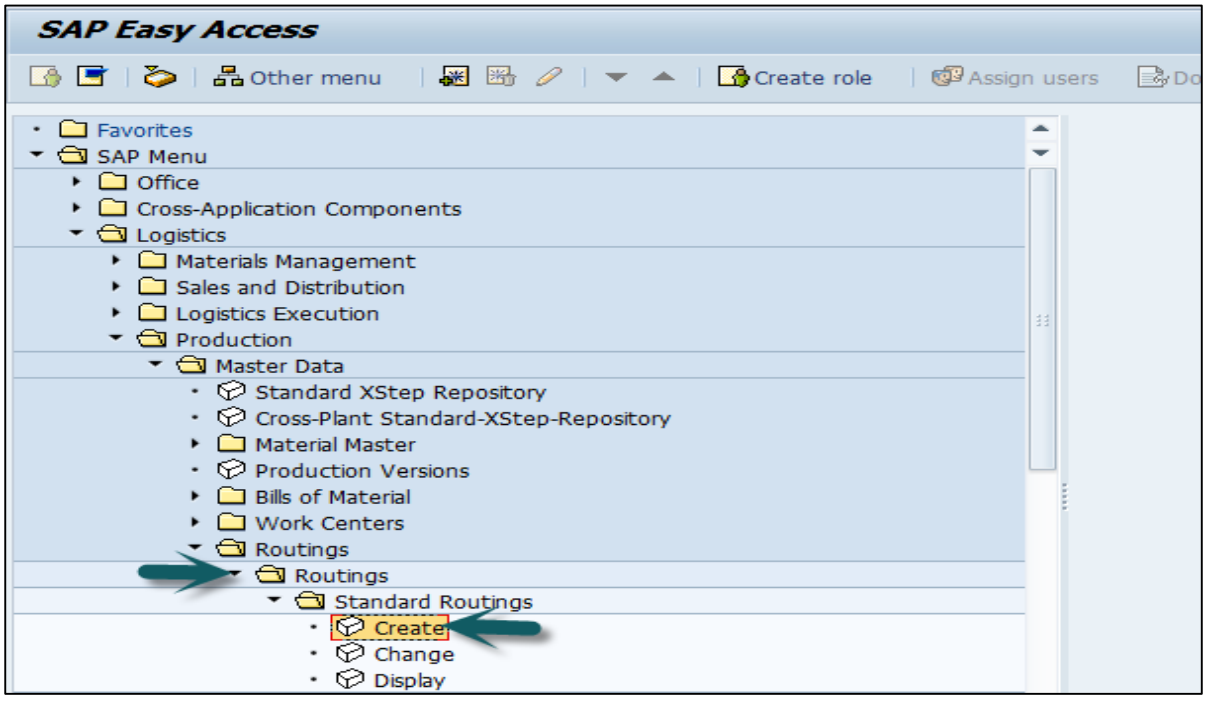



## Routing

Routing defines the sequence of activities performed at the work center. Routing plays an important role in calculating production cost, machine time, and labor time.

For Routing Master data, **use T-Code: CA01** or go to Logistics -> Production -> Master Data -> Routings -> Routing -> Standard Routing -> Create




Enter the following details:

- Material



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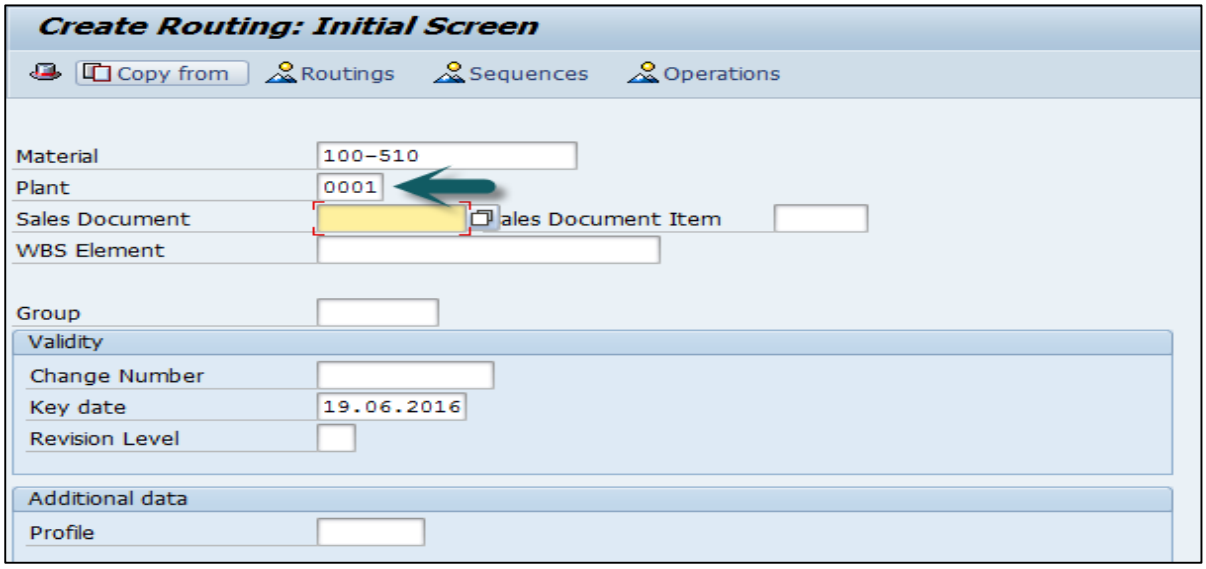
- Plant

Click the tick mark.



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